THE ARCHITECT & BUILDING NEWS

13 DECEMBER 1956 · VOL. 210 · NO. 24 · ONE SHILLING WEEKLY

- NEW ZEALAND HOUSE
- ARCHITECT'S HOUSE, BELFAST
- PLANNING IV

PUBLISHED IN LONDON SINCE 1854

Steelwork

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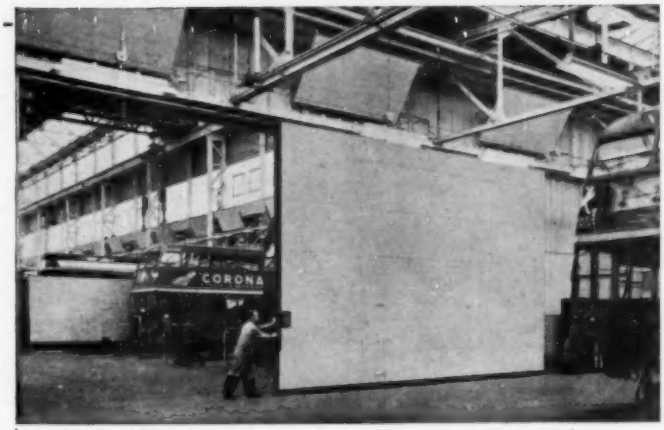
KING EQUIPMENT

REGISTERED TRADE MARK

AT ALDENHAM BUS OVERHAUL WORKS

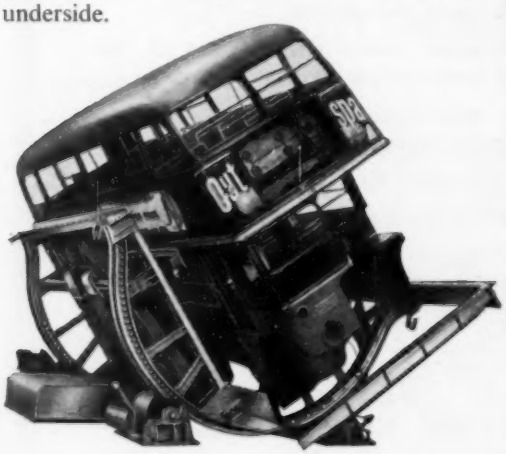
KING Sliding door Gear

There's half a mile of **KING TUBULAR TRACK** at the newly built London Transport Executive's Bus Overhaul Works at Aldenham, and every door —each is at least sixteen feet in height—runs smoothly and efficiently on **KING DOOR GEAR.** The choice of **KING** equipment for Aldenham is further proof of the trouble-free efficiency of this high quality gear. Already there are hundreds of other installations giving satisfactory service throughout the country. The pictures show examples of Straight Sliding, and Folding Doors.



KING Special Handling Equipment

The picture shows one of a number of **KING BUS INVERTORS** in operation at Aldenham. They are designed to handle single or double deck buses, which are supported along their whole length. Operation is by a single hand wheel. Tipping motion is carried through 90°. It is invaluable for cleaning and inspection of underside.



KING

REGISTERED TRADE MARK

SLIDING DOOR GEAR

PLEASE WRITE FOR ILLUSTRATED BOOKLETS

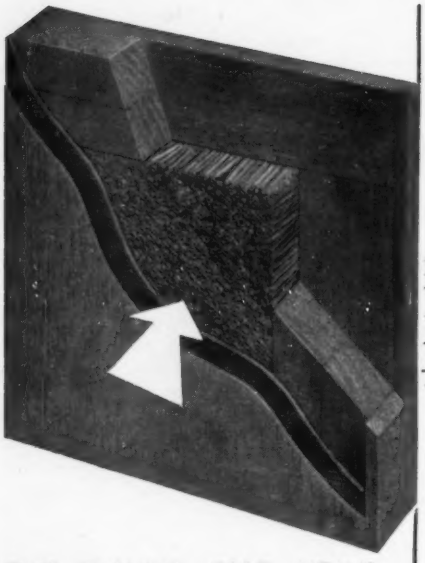
GEO. W. KING LTD., XXX ARGYLE WORKS,
STEVENAGE, HERTS. TELEPHONE: STEVENAGE 440

A

The New Flush Door

THAMESPLY WERNO

STRENGTH IS IN THE CORE



THIS TUBULAR CORE MEANS A BETTER DOOR

Every square foot of the new Thamesply-Werno Flush Door is packed with more than 10,000 equal length tubes of straw. The patent production process ensures uniformity of thickness and density.

POINT FOR POINT, PRICE FOR PRICE, THIS THAMESPLY-WERNO FLUSH DOOR STANDS HEAD AND SHOULDERS ABOVE THE ORDINARY FLUSH DOOR.

The Thamesply-Werno tubular core construction gives these advantages over the average flush door:-

- ★ **Greater strength and resistance to impact**
- ★ **Up to 40% more soundproof**
- ★ **Greater thermal insulation because of the closed cell construction**
- ★ **More fire resistant. Straw closely packed does not burn easily**
- ★ **Sealed against pest infestation.**
- ★ **Doors shot to exact size.**

PLYWOOD-FACED INTERIOR AND EXTERIOR DOORS

HARDBOARD-FACED INTERIOR DOORS

Supplied only through the usual trade channels

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Here's the complete DEXION

RANGE OF FOUR SLOTTED ANGLES NOW DOES MORE JOBS—AT LOWER COST

YOU can now get Dexion Slotted Angle in four sizes, which will between them solve nearly all your equipment problems. Two new angles, Dexion 140 and 112, in addition to the existing 225 and 300, make Dexion a *complete system* of construction.

Used together or used alone, these four angles will give you structures of any size, *economically*. The new smaller angles not only widen the range of Dexion's uses. They save you money, too. You can use them for the lighter jobs—or for lightly stressed members in many structures. In fact, you can now pick the right angle for the right job—at the right price!

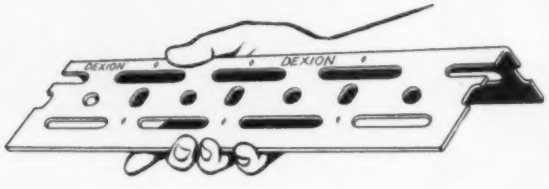
Dexion keeps its simple, scientific design, but now has even greater adaptability. In factory, shop and office, whatever your equipment needs—from heavy duty racking and workbenches to light shelving and displays—there is a Dexion angle for every purpose. Standardization on the Dexion System will cover *all* your needs.

* * *

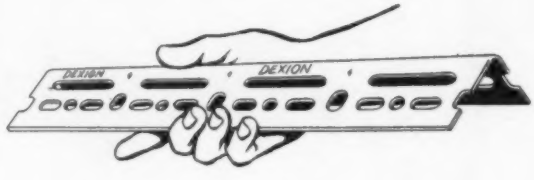
New Dexion shelves, too

If storage is your problem, the new self-supporting Dexion steel shelves give a fine finished job. They bolt direct to the uprights, rigidly locked without bearers or bracing—so the job is neater, quicker, cheaper. Five sizes: 36″ x 12″, 18″, 24″, 30″, and 36″. A unique feature: support bars that bolt on to increase load capacity wherever needed.

THE RIGHT ANGLES . . . THE RIGHT COMBINATION . . . FOR ANY JOB



DEXION 300 This is the largest size; exceptionally strong, it is ideal for heavy duty structures, and any case where accidental shock loads are likely.



DEXION 225 The standard Dexion Slotted Angle 225 is the popular industrial size now used widely in factories, stores and workshops for every kind of job. Even more versatile when used with the heavier or lighter angles.

THE TWO NEW DESIGNS

DEXION 140 Ideal for light racking, display racks in shops and stores, and countless jobs where the extra strength of the larger sections would be wasted. New Dexion 140 has equal flanges and will bolt with all three other Dexion angles.

DEXION 112 The smallest angle in the Dexion system. It is just the thing for light shelving, display-stands and frames, models, small laboratory and workshop frameworks—and has many more possibilities when used with Dexion 140.

All in steel and aluminium alloy, sold complete with nuts and bolts. Steel Dexion is rust-protected and stove-enamelled.

SYSTEM of construction

Mixed use of Dexion: extra-strong 300 uprights support a second storage tier above; rest of structure is Dexion 225. Part of a large installation designed and erected by Dexion for Vickers-Armstrongs.

This strong, rigid work-table is typical of the wide range of lightweight structures that can be built at low cost with the new Dexion 140.

DEXION SERVICES

A trained representative will show how Dexion can meet *your* particular needs in factory, warehouse or office. His practical experience can help save you money, space and labour. It pays to consult him early.

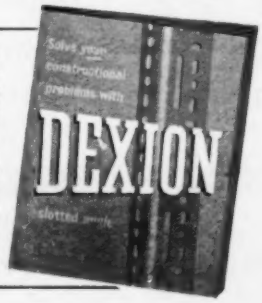
DEXION Design Service. Most users have no difficulty at all in using Dexion. But for large or complicated jobs, careful design can mean substantial savings. The free Dexion Design Service takes the worry off your hands.

DEXION Construction Service. Finally, if you haven't the labour for any fairly large structure, a skilled Dexion team will do the whole job—with speed and efficiency that keep the cost low.

New Dexion 112 proved the ideal material for making this temporary fixture in the laboratory of a London manufacturer.

THIS BOOKLET IS FULL OF IDEAS

To judge Dexion's usefulness to *you*, send for booklet BI.144. Illustrations show how up-to-date firms use Dexion to solve dozens of problems. Full description of the Dexion System with prices. Just write "BI.144" on your business letter-head and post to Dexion Ltd., Maygrove Road, London, N.W.6.
Or ring MAIda Vale 6031 (21 lines)



Get in touch with DEXION®

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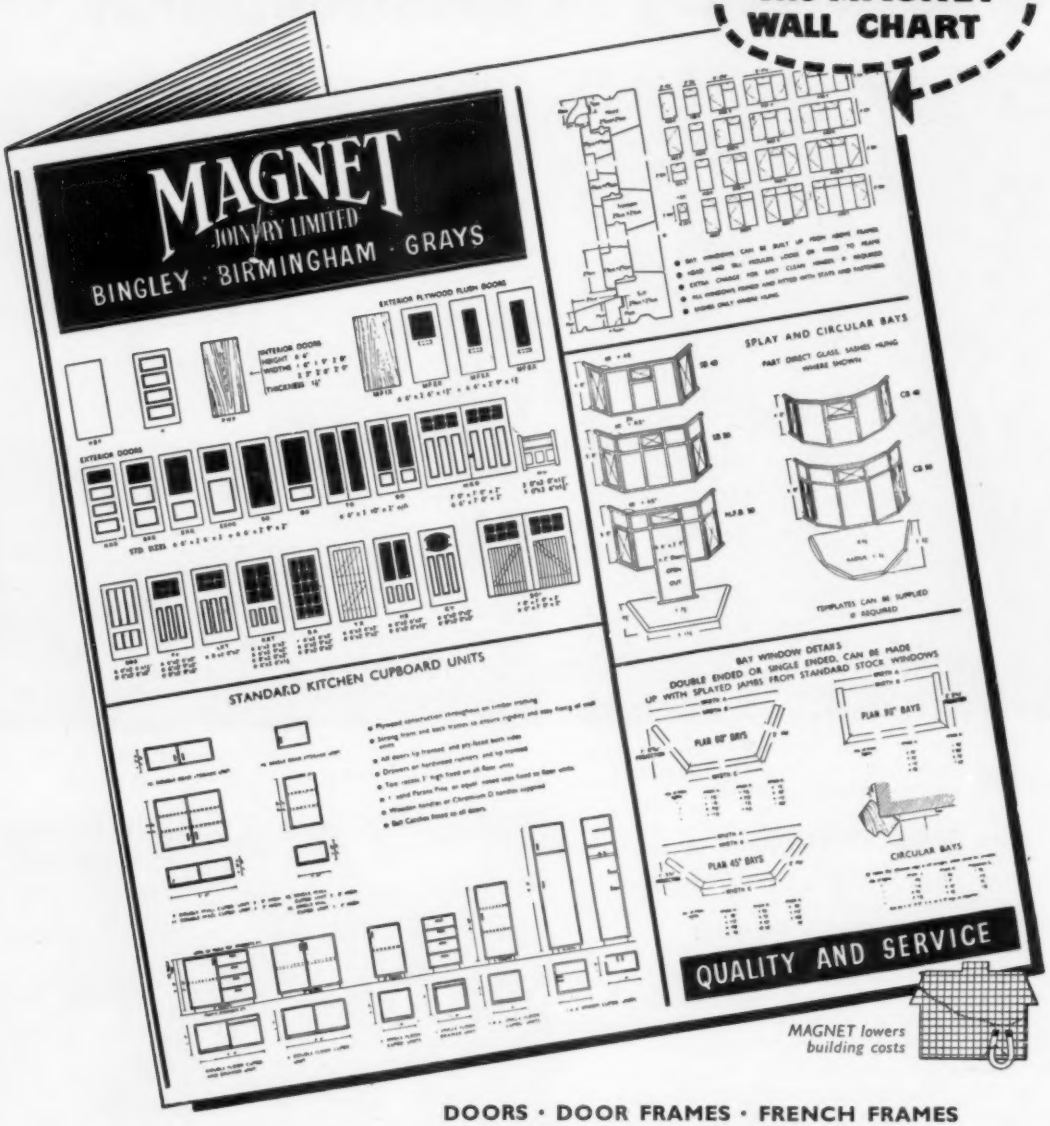
The MAGNET WALL CHART



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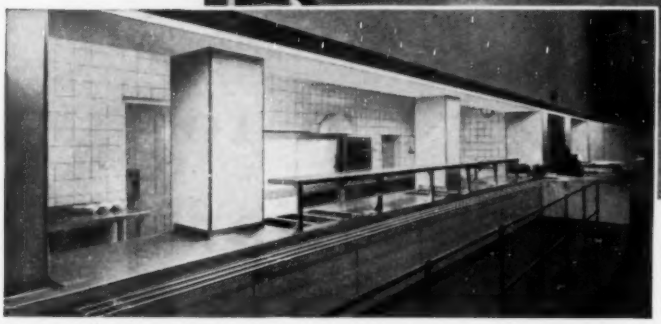
Architects : Wornum & Playne, F/F.R.I.B.A. General Contractors : Richard Costain Ltd., London, S.W.1. Tiling Contractors : Parkinsons(Wall Tiling) Ltd., London, N.15.

View of the kitchen.



Servery in the refectory.

View of the kitchen.

ACADEMIC APPROVAL OF CERAMIC TILES

A centre of learning underwrites the hygiene, economy and colour of Ceramic Tiles, by insisting on them for kitchens and refectories at the Queen Mary College of London University.

On all subjects related to cleanliness ; grease, moisture and acid immunity ; Ceramic Tiles graduate with honours.

Ceramic TILES

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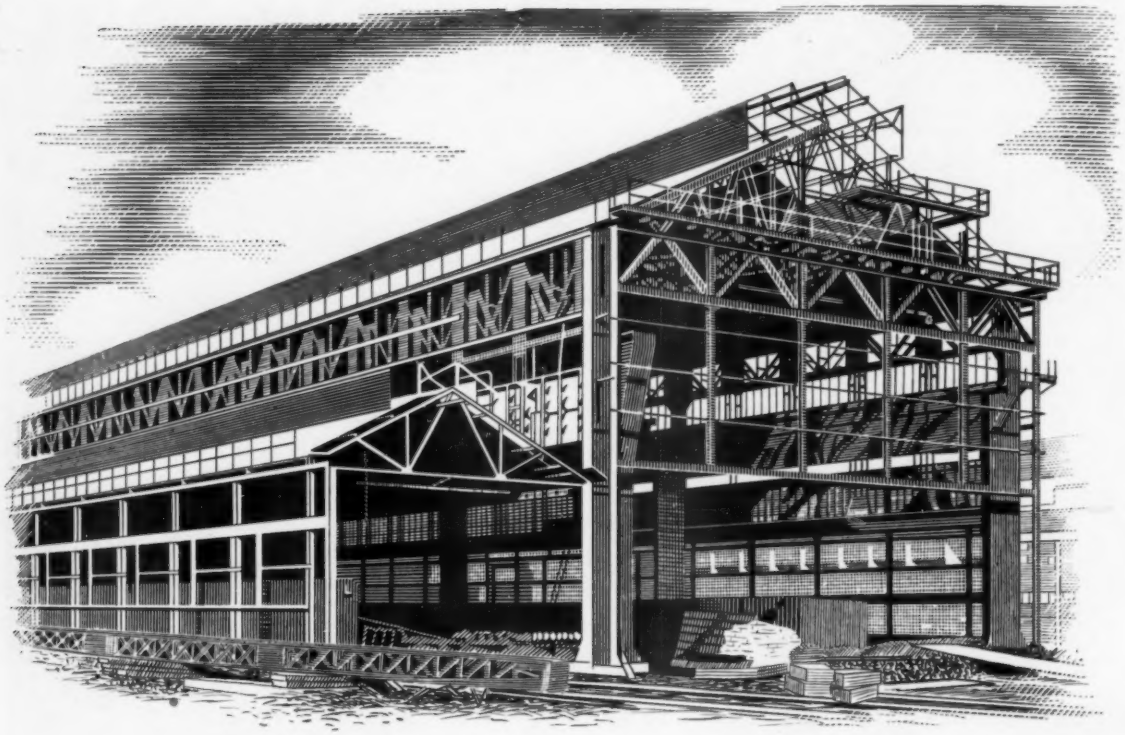
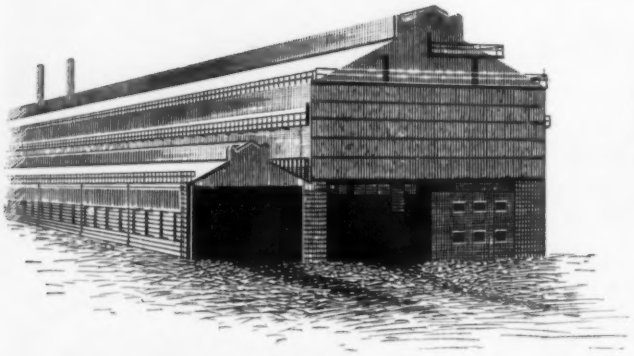


From the design stage to fabrication and erection



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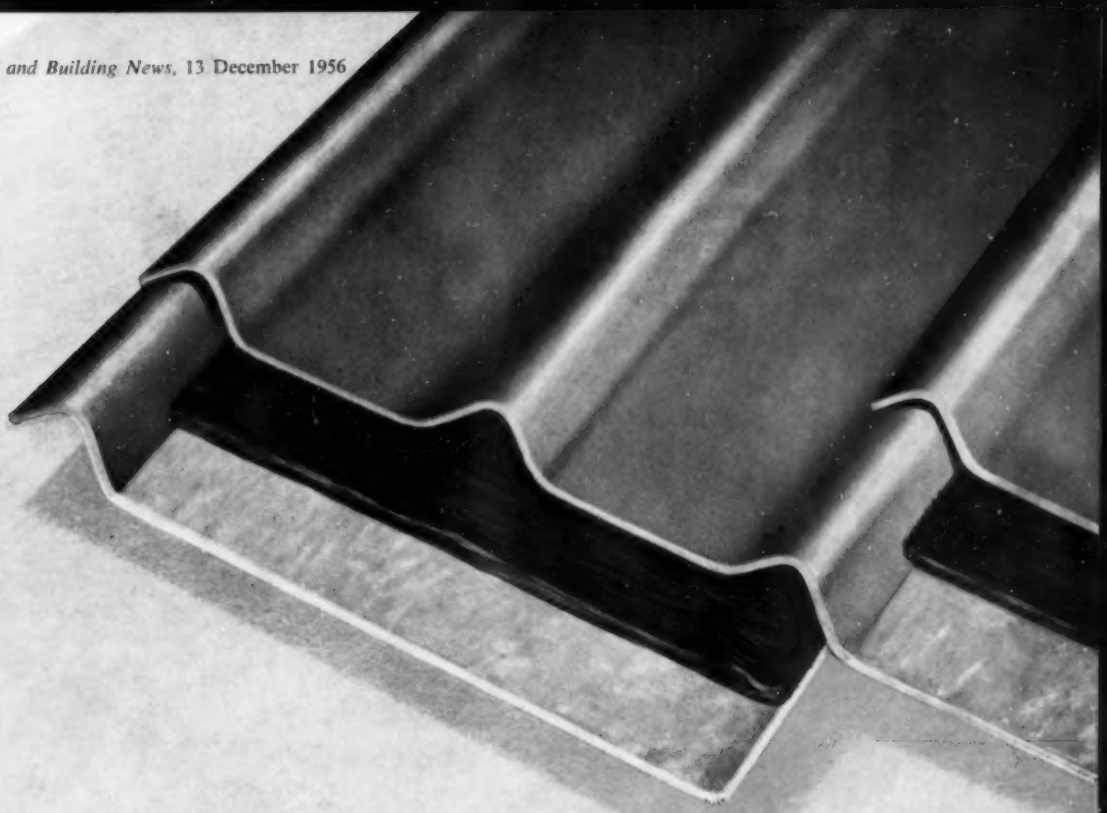
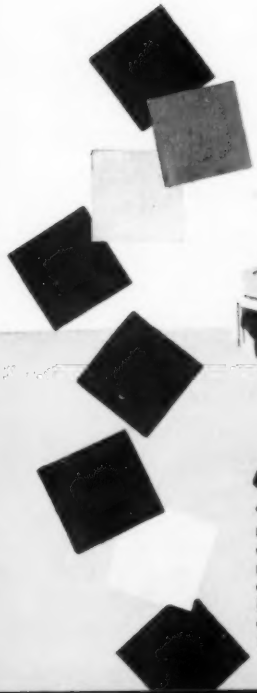


Pays for the extra cost in the first year!

The development of a special Fibreglass Infill for use with "TURNALL" Combined Sheets (Asbestos-Cement) has resulted in a double-skin insulated roof which constitutes the most economical form of insulated roof available. The introduction of the easily-fitted felted mat of rot-proof glass fibres between the double-skin cladding reduces the thermal transmittance from 0.70 to 0.40 BTU/sq. ft./hr./°F — representing a fuel saving of no less than 1lb. of solid fuel for every 1,000 sq. ft. of roof area per hour of the heating season. (On an 18,000 hour period this saving amounts to a total of over £65.) In the case of new buildings this type of roofing enables the capital outlay for heating equipment to be reduced in addition to the subsequent saving.



"TURNALL"
REGD. TRADE MARK
COLOURGLAZE FINISH

"TURNALL" Combined Sheets are now available in an attractive range of works bonded finishes which cannot readily fade or wear (colour chart available on request). The flat inner lining can be chosen in a contrasting colour to the top corrugated outer sheet.

"TURNALL"
REGD. TRADE MARK
COMBINED SHEETS
(ASBESTOS-CEMENT)

WITH FIBREGLASS INFILL
TRADE MARK

TURNERS ASBESTOS CEMENT CO LTD
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A selection from our complete range

Sulphur Cement

Acid, alkali and water resisting, forming a hard impermeable cement for the topping up of joints, etc., in Paved floors, Channels, and Tank Linings.

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This latex type cement is supplied in four grades, its anti-corrosive and waterproof qualities makes it ideal for Brick and Tile Setting, Waterproofing and Underlays.

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A thermoplastic compound consisting of an acid-proof inorganic filler and blended bitumens, it is used as a sealing membrane for Floors, Storage and Process Tanks, etc.

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This thermoplastic acid-proof compound is employed as an unprotected surface for corrosion resisting floors, as a membrane for Channels, Sumps and Tanks.

OUR COMBINATION OF ANTI-CORROSIVE PRODUCTS AND A SERVICE OF DESIGN AND CONSTRUCTION ENABLE US TO CARRY OUT ALL TYPES OF CHEMICAL RESISTING INSTALLATIONS.

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Calypso gay calypso...

Oh, dat sea is so *blue* in de West Indies
Where de *golden* sun puts you right at ease,
And de *green* leaves whisper on de breeze
While de *red* lights-up bougainvillaea trees.

I've packed up dis rainbow from de tropic strand
To sing out in houses of dis here land,
Calypso colours can be at your door
When you brighten your home with gay Klingdecor

Calypso, Gay Calypso is the newest pattern by Klingdecor...

It sings with a vibrant brightness in the darkest rooms. Four vivid shades in patterned melamine are *sealed-in* from fading or staining.
And care-free Klingdecor lasts for practically ever. Cigarette-proof at no extra cost, Klingdecor is completely hygienic, cleans at a wipe.

Labour-saving Klingdecor can be fixed to tables, benches, cupboards, sills, doors—even curved round pillars.

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It's so easy to use
KLINGDECOR
the surface that TOPS everything!

Another KLINGER Product Manufactured by Richard Klinger Ltd. Klingerit Works, Sidcup, Kent.

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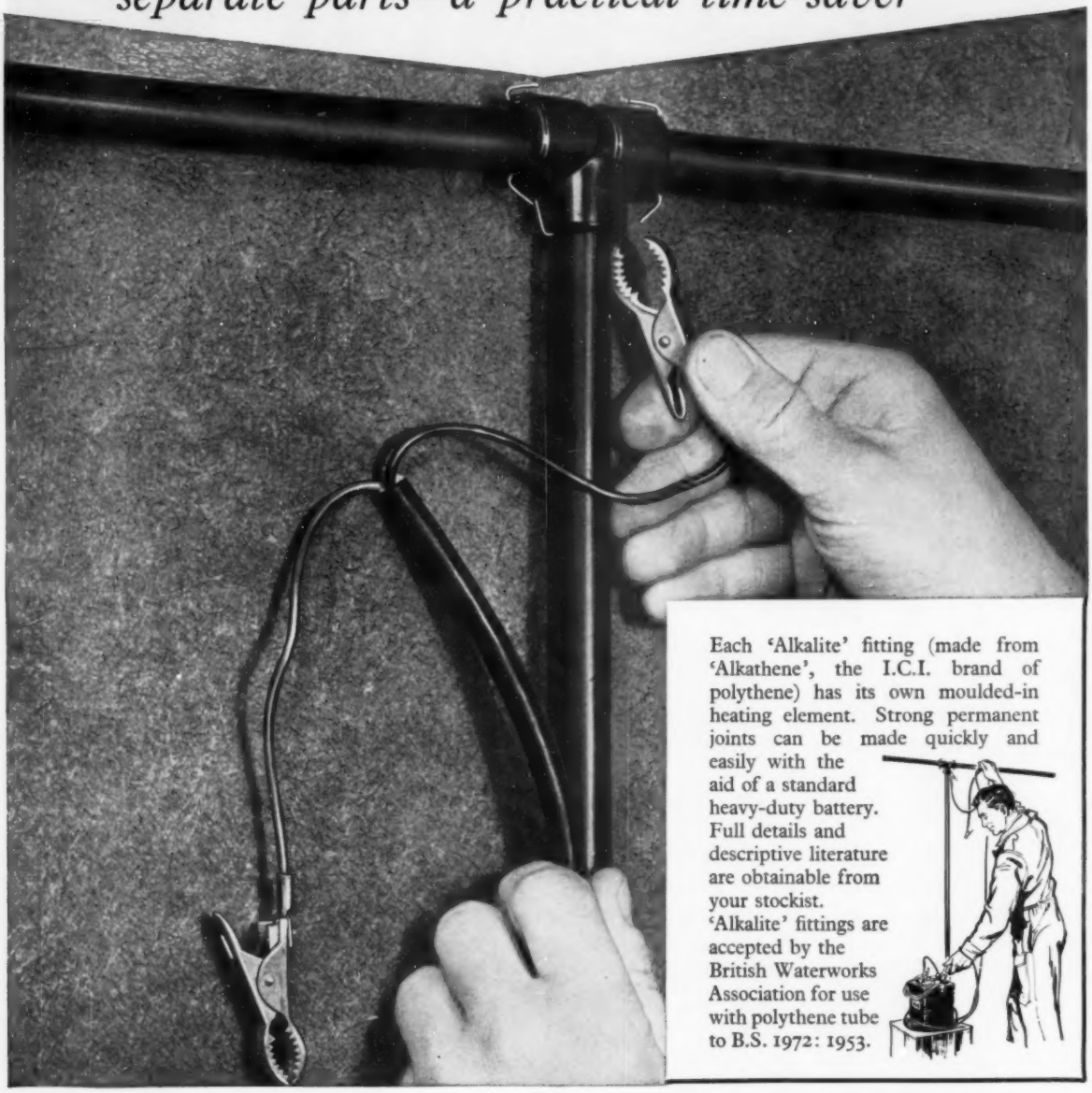
FITTINGS WELD THEMSELVES!

For the first time—no tube manipulation, no separate parts—a practical time-saver



Each 'Alkalite' fitting (made from 'Alkathene', the I.C.I. brand of polythene) has its own moulded-in heating element. Strong permanent joints can be made quickly and easily with the aid of a standard heavy-duty battery. Full details and descriptive literature are obtainable from your stockist. 'Alkalite' fittings are accepted by the British Waterworks Association for use with polythene tube to B.S. 1972: 1953.

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a complete family
of 366 pre-assembled
fluorescent fittings
for all lighting
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Batten fittings
Industrial fittings
Commercial fittings
Decorative fittings

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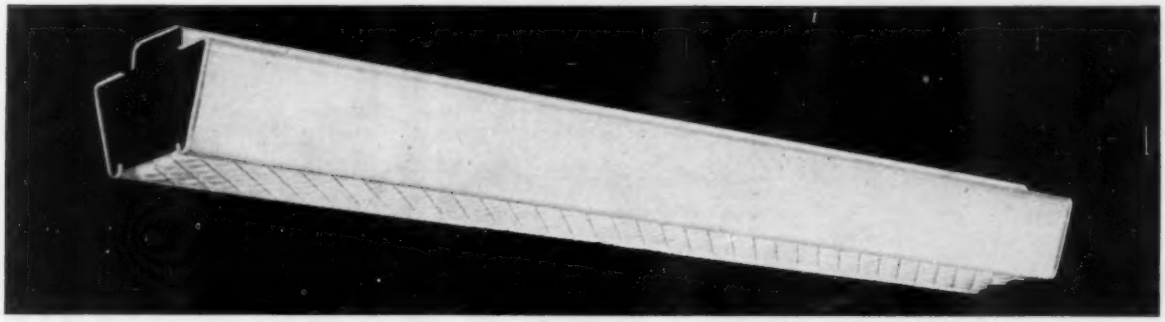
4 lengths
1, 2, 4 or more tubes
Universal suspension
Bi-pin lampholders



Designed for all commercial, industrial and general purpose lighting installations, the Atlas Atlantic range comprises a variety of 8 ft., 5ft., 4ft., or 2ft. fittings with a choice in number of tubes, suspension or control gear. Reflector or diffuser attachments, in metal or 'Perspex', added to the basic chassis build up a family of fittings that provides unequalled variety for all lighting needs and possesses unique features that simplify installation and maintenance.

The examples illustrated are louvred plastic diffuser for store lighting (series 15) and a general purpose 'Perspex' trough fitting (series 16).

For full details of Atlas Atlantic please write to:

ATLAS LIGHTING DIVISION

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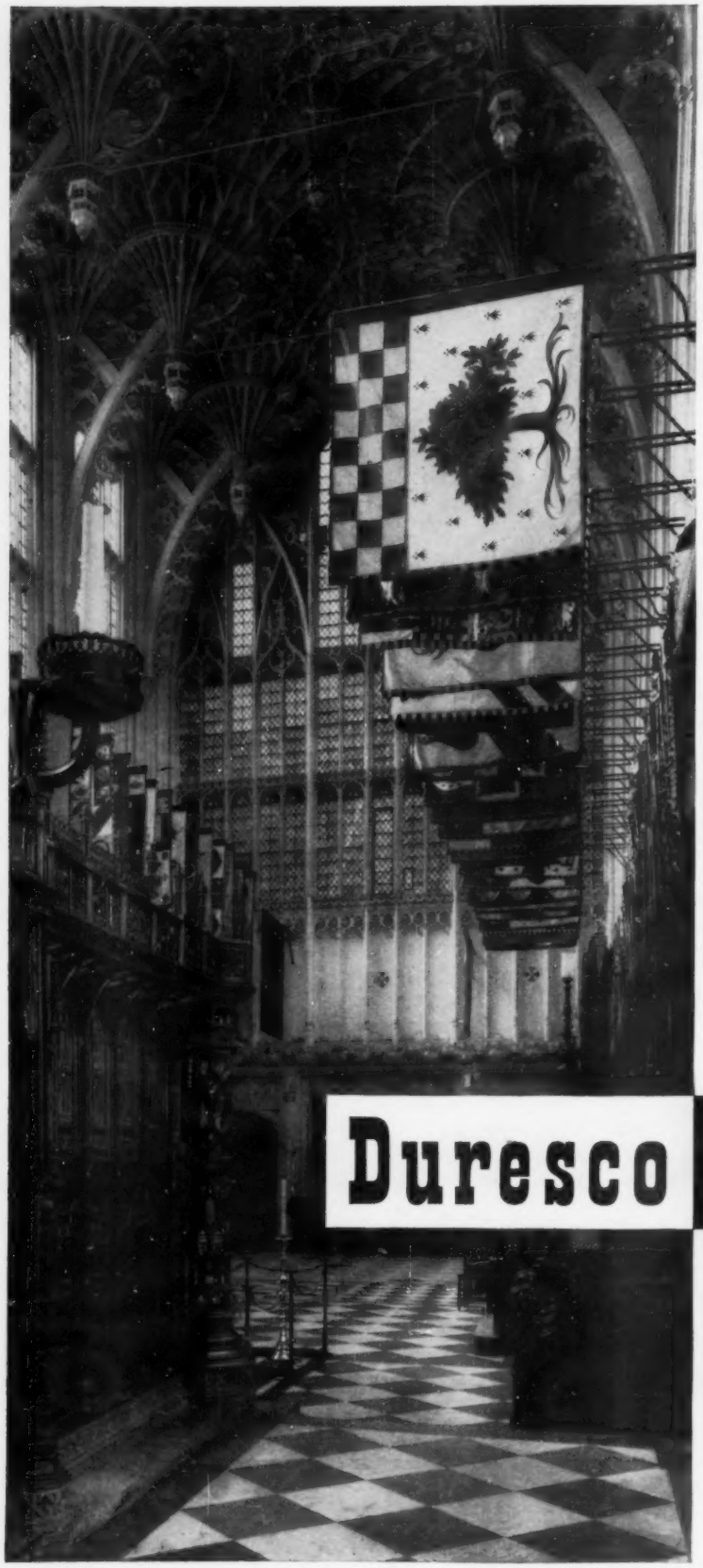

Henry VII's Chapel, Westminster Abbey.

There are Colours and colours, just as there is Service and service.

A reputation for high quality takes time and skill and patience to earn. Eighty years of concentration on the exacting needs of architects and professional decorators account as much as anything for the enviable reputation of Duresco colours.

It takes service to sustain a reputation, which is why the prime qualification of a Duresco representative is a real knowledge of paint. All Duresco representatives *know* paint.

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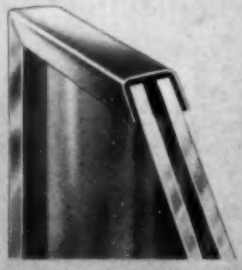
INCREASED DAYLIGHTING WITH REDUCED HEAT LOSS



Hilsulate Double Glass Clear Panels have been designed to give greater daylighting over large areas with a high degree of thermal insulation. They effectively reduce heat losses up to 35% as compared with a single glass pane, and have an insulation value equivalent to a 4½ in. brick wall. The panels consist of two panes of glass set apart and continuously sealed to give an airtight cavity, with all edges protected by an aluminium frame surround. They are as easy to glaze as a single pane of glass into normal types of steel or timber frames, and are made to measure up to 48 in. wide, with an area not exceeding 25 ft. Further information may be obtained from your local area office.

HILSULATE DOUBLE GLASS *Clear* PANELS

'Hilsulate' Panels may normally be obtained through Glass Merchants, in case of difficulty please consult your nearest Branch Office

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MAJOR SIX sheeting is proving its adaptability to all constructional and weather conditions, giving —always— a dependable roofing service.

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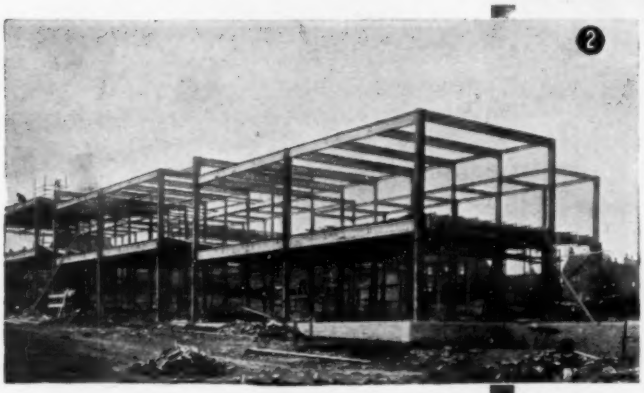
Design

Fabrication

Erection

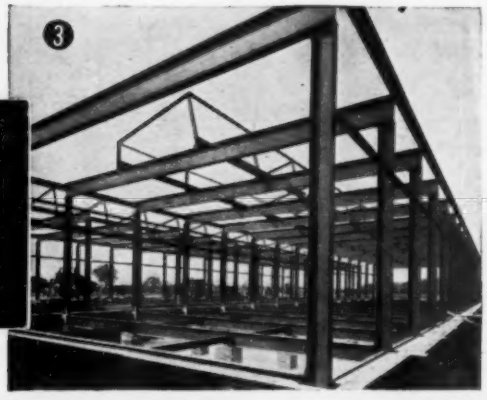


1 New factory building for Messrs. William Cooke & Co. Ltd. of Rotherham. 300 ft. x 120 ft. span.

2 The County Primary School, Crosland Moor, Huddersfield.

3 College of Further Education, Grimsby, in course of erection. STAGE 1.

4 The completed College. STAGE 1.



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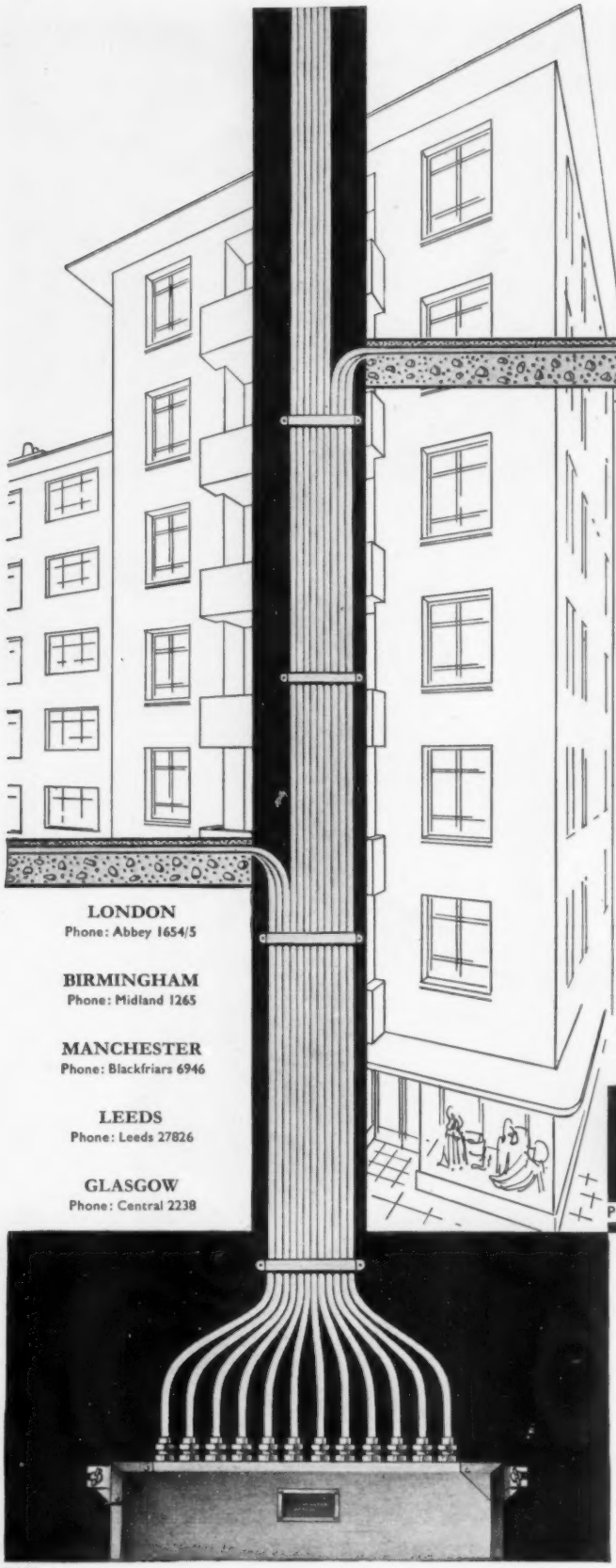

RISING MAINS

that cost less to install...

The higher the building the more marked are the economies affected by "Pyrotenax" for rising mains. "Pyrotenax" goes in without conduit, additional sheathing or ductwork, and conforms easily with 'awkward' structural contours — resulting in a neat compact installation using the *minimum possible space*.

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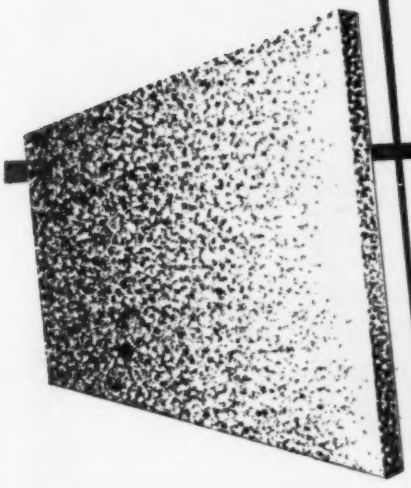

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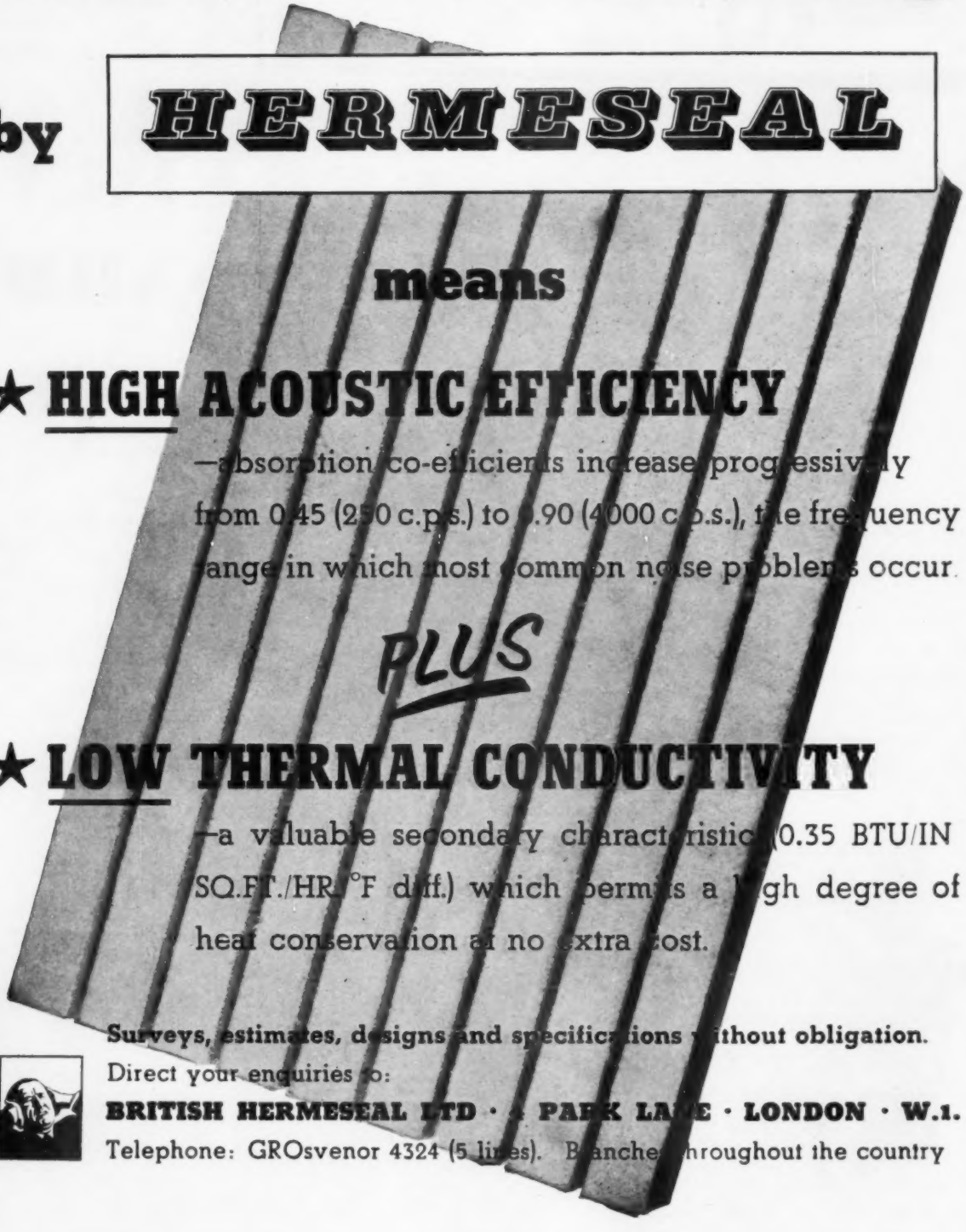

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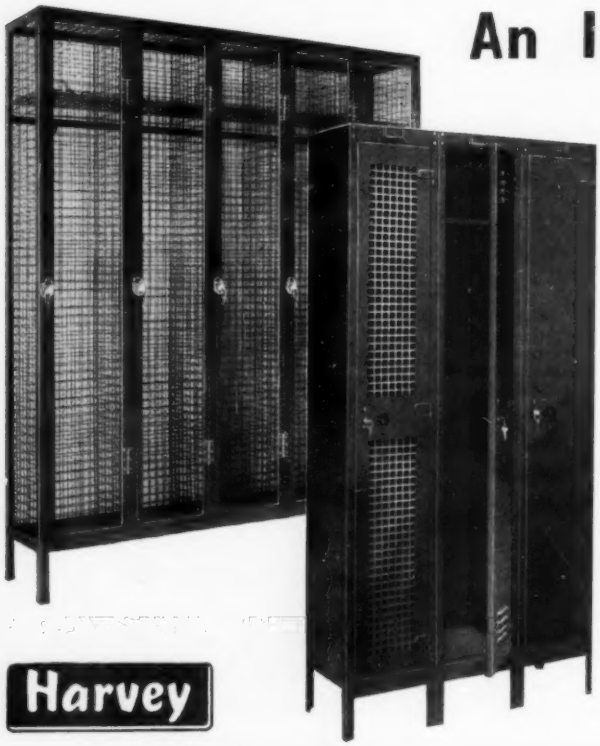

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CL/JR

Dear Mr. [redacted] RE: New Factory, Harlescott Lane.

You have asked us to let you have a preliminary report on our experience in our new factory designed by you, with special reference to the following points:-

A. Natural and Artificial Lighting.

1. The daylight in the factory is absolutely outstanding and wholly adequate for all purposes.

2. The light distribution is very even, thanks to the ply-glass panels, and there are no irritating shadows in any area of the factory.

3. The artificial lighting is fully adequate and we have had no complaints from our staff.

B. Noise Control.

4. The general level of noise inside the factory is quite remarkably low, and all visitors have noticed the quietness. We have approximately 250 sewing machines in an area of 4,000 sq.ft. at the moment (pending the erection of the conveyor belt) and the hope of a further 100 machines shortly. If the level remains at the present intensity, we do not expect any difficulties when the other 4,000 sq.ft. are filled.

Yours sincerely,

C. [redacted]
DIRECTOR

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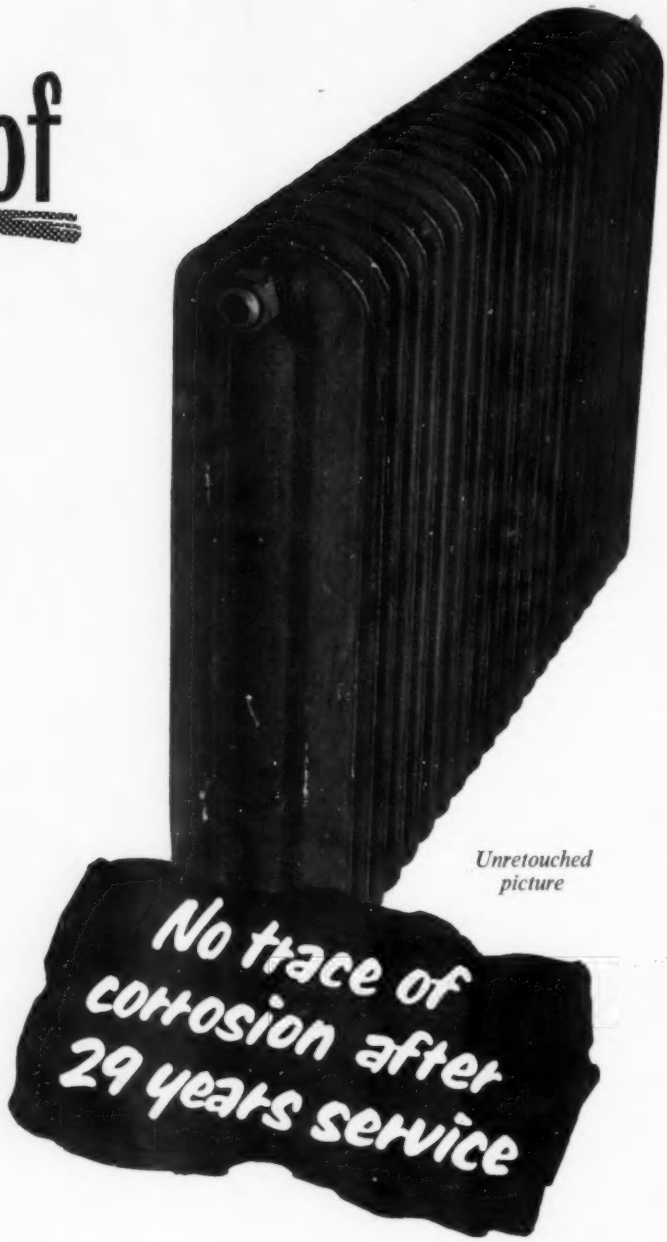

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Vol. 210 No. 24

THE ARCHITECT & BUILDING NEWS

December 13 1956

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SAVE ENERGY

ABOUT 18 months ago it was probably true to say that most people in this country, and perhaps our industry in particular, faced the future with a greater degree of optimism than at any time since the war. Even a member of the government forecast a time ahead when the standard of living in this country might well be double as good, provided everybody pulled hard on their own particular oar.

But all was not quite well; and perhaps we were mildly shocked when measures intended to ensure economic stability soon removed some of the rose colour from the spectacles many people were wearing.

The steady deterioration in the foreign political field over the past five months has worsened the outlook. Now, the restrictions and extra cost of importing crude oil, making petrol rationing necessary and raising the price of all oil fuels has chain-reacted on to many other costs, thereby affecting the standard of living of everyone in the land.

No one will dispute that this is a gloomy picture. But it is not a picture without hope; or one about which nothing can be done by everyman.

In terms of liquid fuel, we hope the setback in oil will be temporary only. In terms of total energy, it must be remembered that 85 per cent of the total United Kingdom requirement still comes from coal, that oil is a stop-gap, and that the world entered the atomic age beginning a new era in its industrial history only 14 years since the discovery of this new form of energy.

The situation demands that we press on with the programme of nuclear power as fast as possible so that it can take over a major part of the electricity production in Britain as soon as possible. That must be the long-term policy. The short-term and immediate policy must be the conservation and more efficient use of fuel of all kinds by every single individual and by all possible means.

Every single individual—totalling millions of people—could help a little (but amounting to a lot) by not wasting any fuel in their *own* homes and places of work. Obvious perhaps, but the point needs making.

In industry, commerce and the home, attention should be paid to the lagging of hot water and steam pipes, boilers, calorifiers, cylinders, storage tanks, etc., and care exercised that it is protected from mechanical damage and from moisture.

More attention might be paid to the recommendations of the British Coal Utilization Research Association and their remarks about the efficiency and efficient use of solid fuel appliances.

Courses for builder's operatives in the fixing of solid fuel appliances, such as those to be held at Canterbury and Salisbury—under the auspices of Joint Service Committees* and the Coal Utilization Council might be repeated usefully elsewhere with the aim of improving the efficiency of installations. It might be expedient too, to reconsider some time-honoured privileges in the coal-mining industry. There might be more smokeless zones and their usefulness might be extended.

The control and use of heat in public transport, particularly railway carriages, might be looked into with advantage.

District heating, in spite of the high capital cost of its installation, wherever waste heat from power stations or other services can be easily tapped, should be considered in the light of its fuel-saving advantages; and taking a forward view, those which may come with the more widespread use of nuclear power for electricity production. This list could be enlarged many times.

The point we think is clear: for once let us be wholehearted and not make this subject a matter of compromise.

* The Canterbury, Whitstable and Herne Bay Joint Service Committee and Salisbury Joint Service Committee.

EVENTS AND COMMENTS

INDIAN ART AT THE V.&A.

After years of some obscurity in the outlying galleries of the Imperial Institute some of the V. & A.'s very fine collection of Indian Art has now been magnificently housed in one of the large courts and several small rooms in the main V. & A. building. As usual with such official things no mention is made in the handout of those responsible for the layout and display of the collection. It is all very well done and it would have been nice to have been able to congratulate someone by name. The selection of works shown, for it is only a selection, includes sculptor, painting, textiles, crystal, jade, jewellery and furniture. The best-known exhibit is probably the working model known as Tipoo Sultan's Tiger, where a tiger is shown devouring an Englishman to musical accompaniment—an organ is concealed inside to emulate growls and groans. There are some lovely early bronzes and a case of curious objects in what appears to be silver wire. These are mostly animals and people and closely resemble the birds and animals of Saul Steinberg.

The paintings are to me the real backbone of the collection. Almost all have a miniature quality and jewel-like sharpness of line and colour. India it seems at one time consisted almost entirely of beautiful women waiting in woods for princes. My picture shows two ladies who did not wait in vain. Go and see this splendid show while the white paint is still fresh on the walls and the admirable coloured backgrounds to the cases are still bright.

THE FIRST CHRISTMAS PARTY

Matthew Hall declared Christmas very early this year with their annual cocktail party at the Dorchester. It was not just a party but a most informative exhibition as well. There may have been the largest display of bottles in Britain, but there were also some prodigious models of some of the firm's contracts with photographs of the actual things under construction. Guides were laid on to explain the various exhibits and pretty girls—all from the firm—made sure that guests were looked after. One of the most interesting exhibits was a packaged air conditioning unit, a new product about which we may expect to hear more.

I had always thought of Matthew Hall as mainly concerned with Heating and Ventilating and plumbing but, judging from the exhibition, these can only be sidelines. Chemical engineering and work on nuclear power stations appear to be the main lines with very many ancillaries.

A $25,000 PRIZE

In memory of the late Richard Samuel Reynolds, one of America's pioneers in aluminium, the Directors of the Reynolds Metals Company have established the R. S. Reynolds Memorial Award.

Prince dallying with ladies. *See Indian Art at the V. & A.*

This award will be made annually to an architect "who, in the judgment of his profession, has made a most significant contribution to the use of aluminium, aesthetically or structually, in the building field". The award may be made jointly to two or more persons. "It will carry an honorarium of $25,000 and an appropriate emblem. The award will be international and the jury which will be chosen each year will consist of distinguished architects. It will work under the sponsorship of the American Institute of Architects. The R.I.B.A. has asked that the award should be publicised in this country.

The very gentlemanly little brochure which announces all this does not say how one is to set about entering for the award nor when the first will be made. It does say, however, that "Prime consideration will be given to the creative value of the contribution, and its potential influence on the architecture of our times, rather than to the size or type of structure. If you are interested I suggest that you write to the Reynolds Metals Company, Richmond, Virgina, U.S.A.

NEW ORIENT LINER

Design Research Unit and Mr. Brian O'Rorke are to design the public rooms of the new Orient liner *Oriana*, 40,000 tons. The designers will share the various areas and Professor R. D. Russell will design the passenger accommodation. Other designers will be appointed later to collaborate with them. The various designers will work in close association with the Line's naval architect, Mr. C. F. Morris.

This assures us of another distinguished British ship interior and continues an association started, I think, in the *Orcades*. Mr. O'Rorke has, of course, been associated with the interior design of every Orient ship since the *Orion*.

When will other British shipping companies profit by this admirable example? Not perhaps until they have men of Sir Colin Anderson's stature on their boards.

FURNITURE 1957

The British Furniture Manufacturers Association Exhibition has in the past come in for a good deal of criticism from architects and designers. Next year's show to be held at Earl's Court in January, is to have an exhibit provided by the Society of Industrial Artists. The space and the shell of the stand is being provided free by B.F.M. Exhibitions Limited, a generous gesture. Examples of the work of members of the S.I.A.'s "furniture group" will be shown and will include contract work, designs for mass production and specially-made furniture and fittings. The stand will be designed by Edward Mold, A.R.I.B.A., M.S.I.A.

Thus designers will be able to contribute some constructive criticism where in the past it has rarely been possible to be anything but destructive.

C.o.I.D. AT THE FURNITURE SHOW

In addition to the S.I.A. the C.o.I.D. will have a stand at Earl's Court. The display will be designed by Robert Wetmore. Some sixty pieces of furniture will be shown. They will represent the best designs in the ranges of firms showing in the public section of the exhibition. This section is being designed by Misha Black.

"DESIGN" EXPANDS

In January the C.o.I.D. monthly paper *Design* is going to be larger in format. It will be one-sixth greater in area. I do not know the new dimensions but I hope they will be 11in x 8½in so that sheets from it can be filed with trade literature in architects' offices. The reason for the increase in size is to enable more space to be given to illustrations and text on each page while retaining a high standard of layout and production. The price of the magazine will be increased from 2s 6d to 3s (3s 6d post free).

CHRISTMAS CARDS

Many architects produce their own Christmas cards and many include the editor in their mailing list. This year I have asked him to allow me to reproduce some of them on this page. I hope, therefore, that if you design your own cards you will send one to the A. & B.N.

ABNER

Correspondence

"New Zealand House"

Sir,—As a reputed "Stick in the Mud" may I point out that, some 30 years ago I proposed and illustrated in your columns, a scheme by which a tower office building might occupy and worthily terminate the end of Carlton House Terrace which still lamentably ends in a huddle of buildings shown at the lower edge of both pictures on page 743 of your last issue.

The occasion was an endeavour to find a site for H.Q. of the R.A.F., then scattered about London in various unsuitable buildings. I well remember thinking that a lofty structure, free on all sides, and with high-speed lifts, would suit admirably the gay young sparks of the R.A.F.; who might also be tickled by the feeling that on this site they could look down on the Admiralty below.

From this I elaborated a wider scheme, by which, at quarter mile intervals, licenses might be granted, for substantial fees, so that suitable island sites might be developed in tower form with advantage to our shapeless city.

Yours etc.,
EDWIN GUNN.

An Exercise in "Modular Co-ordination"

Sir,—The exercise by the fourth year at the Regent Street Polytechnic in dimensional co-ordination, based upon one of the number-pattern systems now current, is a valuable piece of work and it is wholly admirable that studies of such public importance are now being undertaken at several of our architectural schools. The importance of the work makes it all the more unfortunate that its title should be a misnomer. It is an essay in dimensional co-ordination, but it is not *modular*.

Modular Co-ordination is defined in the E.P.A. Report as, "The achievement of dimensional co-ordination by means of a module."

Yours etc.,
MARK HARTLAND THOMAS.

Solid Fuel Appliances

Sir,—I was especially interested to read the letter from Mr. H. S. L. Knight in your last issue, as we have already included in our programme a Forum on the subject of the design of solid fuel appliances generally. The date, with those of other meetings, will be announced shortly and I hope that Mr. Knight will find it a convenient one.

Incidentally further suggestions from any of your readers for future subjects for discussion at an open Forum will be gratefully received.

Yours etc.,
F. R. YERBURY,
Director, Building Centre.

Leadership at Hammersmith

Sir,—Abner in your last issue was kind enough to mention some of the things I said at the recent prize giving at Hammersmith School of Buildings and Arts and Crafts. In one respect, however, he has misquoted me. I did not say that the big building concern of the future might well be run by two joint Managing Directors, one a builder and the other an architect. What I did say was that one might be trained in building technology and the other in architecture and both in management. The training of a builder in architecture does not necessarily make him an architect.

Yours etc.,
PETER TRENCH.

NEWS

Czechoslovak Exhibition

An exhibition, Architectural Treasures of Czechoslovakia, was opened by the Ambassador of the Czechoslovak Republic today. The exhibition has been prepared and sponsored by the Czechoslovak Ministry of Education and Culture and will be on view at the R.I.B.A., 66 Portland Place, W.1, from December 14-28 (closed December 25 and 26) Mondays-Fridays, 10-7; Saturdays, 10-5. Admission free.

N.F.B.T.E. Presidential Nominations

Mr. L. A. Walden, of Henley-on-Thames, has been nominated by the Council of the N.F.B.T.E. to be President of the Federation for 1957. Other presidential nominations by the Council are: Senior Vice-President, Mr. C. P. Howells (Caerphilly); Junior Vice-President, Mr. T. V. Prosser (Liverpool).

The annual general meeting of the National Federation will be held in London on Wednesday, January 30 next, the annual dinner taking place at the Dorchester Hotel on the preceding evening.

Revision of R.I.B.A. Contract Progress

The Joint Contracts Tribunal were reconstituted in October, 1955, to comprise representatives of the Association of Municipal Corporations, the County Council's District Councils' Association, the Rural District Councils' Association apart from the existing representatives drawn from the Royal Institute of British Architects, the Royal Institution of Chartered Surveyors, and the National Federation of Building Trades Employers. A representative of the Metropolitan Boroughs Standing Joint Committee was subsequently appointed in April, 1956.

The immediate task which faced the reconstituted Tribunal was to set on foot the neccessary machinery to initiate the general revision of the R.I.B.A. Standard Form of Contract. To this end considerable publicity was given to the fact that the Tribunal were prepared to receive observations upon the working of the form and suggestions for amendment. A closing date of February 29, 1956, was given.

As a result of this publicity the Tribunal received documents from 134 bodies or individuals containing a total of over 1,400 points which, when summarized, occupied not less than 236 pages. To the present date some 500 of these points have received preliminary consideration by the Tribunal.

The initiation of this great volume of work took place under the chairmanship of Mr. Sydney Tatchell, C.B.E., F.R.I.B.A., which position he had occupied from the inception of the Joint Contracts Tribunal in 1932. It was, therefore, with regret, that in July, 1956, the Tribunal accepted his resignation. Sir Percy Thomas, O.B.E., Past-President R.I.B.A., who was unanimously elected to the chair in Mr. Tatchell's place, has been a member of the Tribunal for some 20 years, apart from his two periods of office as President of the R.I.B.A.

R.I.C.S. Gold Medal and Prize

A new award for research and original work has been announced by The Royal Institution of Chartered Surveyors. It takes the form of a Gold Medal and a Prize of one hundred guineas, which will be awarded annually to the author of a paper chosen to be read at the Chartered Surveyors annual conference.

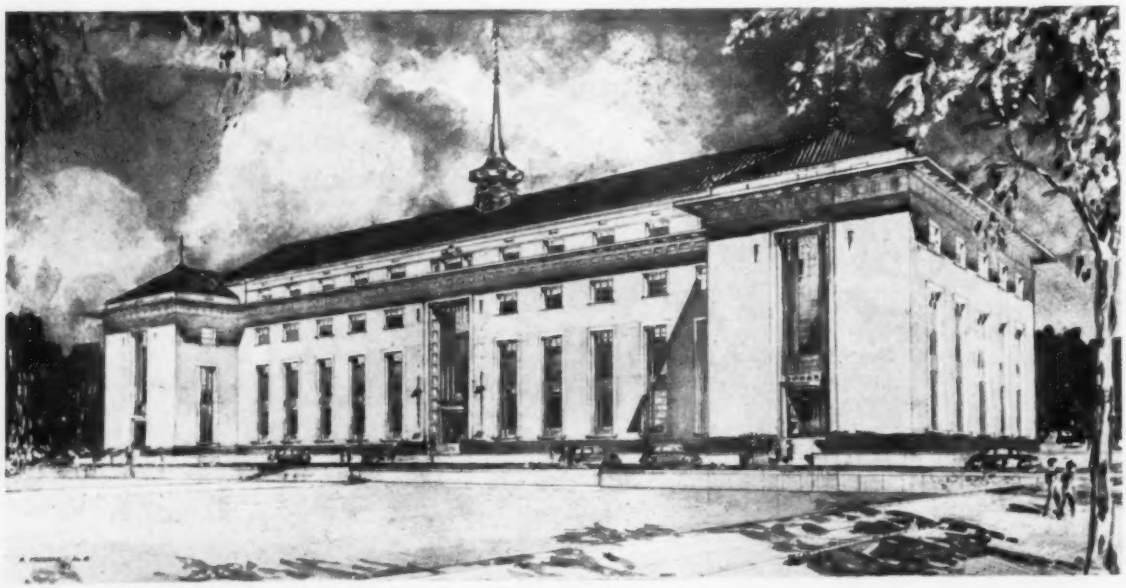
The competition is open to all persons ordinarily resident in the British Commonwealth or in the Republic of Ireland.

A short list of subjects will be specified each year, and the choice of these subjects will be related to the main theme of the conference. In 1957 the theme will be the changing British economy and its effect on land ownership and development. The subjects chosen on this occasion are as follows:

1. *Capital formation and land value:* this subject is limited to the investment of capital in buildings, houses, roads and other forms of improvement to land; and the relationship now and in the past between the monetary costs of the investment of this capital and the monetary value of proprietorships in the land and the capital formed upon it.

2. *Political theory and land ownership:* the influence of the theory of private property and the theory of

On Tuesday, His Highness the Kabaka, in the presence of the Governors of Uganda and Tanganyika, opened the new Bulange, Buganda's parliament building. This perspective shows the new building designed by architects Cobb, Powell and Freeman, of Kampala



communal property now and in the past upon British land-ownership systems and principles of land tenure; and the significance of current theories for future change.

3. *Technical progress and land tenure:* the manner in which different systems of land tenure now and in the past have helped or hindered development in agriculture, industry, commerce, construction of buildings and transport.

4. *The contribution to economic and social development of surveys of land and natural resources:* the work of surveyors, geographers, geologists and other scientists in exploration, discovery of natural resources, surveying and map-making and their contribution to economic and social development.

Entries for the 1957 Gold Medal and Prize must be sent by not later than May 7, 1957, to the Secretary, The Royal Institution of Chartered Surveyors, 12 Great George Street, Westminster, London, S.W.1, from whom entry forms and the rules of the competition may also be obtained.

The Chartered Surveyors annual conference will be held at the University of Nottingham on July 16-20, 1957, and the author to whom the Gold Medal and Prize are awarded will be invited to read his paper at a session of the conference on Friday, July 19, 1957.

Plastering Contractors' Officers, 1957

Mr. A. C. V. Telling, of Bristol, has been elected President for 1957 of the National Federation of Plastering Contractors. Mr. D. V. Ormston, of Stockton-on-Tees, has been elected Senior Vice-President and Mr. P. A. James, of London, Junior Vice-President.

The Builder — Appointment of General Manager

Mr. McK. E. Tatchell has been appointed General Manager of *The Builder Ltd.* and took up the post on December 10. He left B.O.A.C. in 1951 to join the Edison Swan Electric Co. Ltd., as Publicity Manager, a post which he has relinquished to join *The Builder*.

Mr. H. James Kimber has been appointed Advertisement Manager. He has been connected with that department of *The Builder* for ten years.

I.A.A.S. Certificate Examination for Building Inspectors

Following a recent decision by the Council of the Incorporated Association of Architects and Surveyors, a system of examination has now been introduced to cover suitable applicants in building trades who are desirous of advancement to building inspector status within the framework of municipal service.

In order to qualify for the award of the certificate applicants will be required to pass the Intermediate examination as set out for building surveyors (municipal) in the official syllabus. Successful completion of the examination will not, however, entitle candidates to corporate or any other membership of the Association until such time as they may comply with all other conditions appertaining to such membership.

For the purpose of taking the certificate examination the requirements of the general certificate of education has been waived, but applications must show that they have reached a reasonable standard of general and technical education before they can be accepted as candidates.

For further details application should be made to the General Secretary of the I.A.A.S., 29 Belgrave Square, S.W.1.

Law and Administration

Contracts with Local Authorities

Those who conclude contracts which are favourable to them or who desire to rely upon the contracts concerned do well to watch the essential formalities with care. One of the most important formalities which should be considered is that relating to signature. In the case of most contracts all that is needed is that the parties who sign the agreement must be duly authorized to sign. Sometimes the matter goes further. It is an ancient rule of the common law of England that a contract made by a corporation must be made under seal if it is to be enforceable. It should be emphasized that nothing illegal has occurred if a corporation makes a contract which should be made under seal but is not. The result is merely that no one can *enforce* the contract; the corporation concerned is normally completely free to honour the contract if it so desires. So anyone who enters a contract with a corporation which is not made under seal, but which should be, takes the risk that the corporation may refuse to carry out the contract *solely* on the ground that there was no seal.

From time to time exceptions have been made to the common law rule. Thus, in the words of Lord Denman:

"Whenever to hold the rule applicable would occasion very great inconvenience, or tend to defeat the very object for which the corporation was created, the exception has prevailed: hence the retainer by parole of an inferior *servant*, the doing of *acts very frequently recurring*, or *too insignificant* to be worth the trouble of affixing the common seal, are established exceptions."

What is more, if the corporation concerned is a non-trading corporation and if the subject matter of the contract was connected with the purposes for which the corporation was established and the other party has performed his part then the law will imply a promise to pay for the benefit asked and received.

In the recent case of *Wright & Sons Ltd.* v. *Romford Borough Council* the Borough Council claimed the protection of the common law rule in respect of a contract which they had entered. An agreement had been made in writing which was signed on behalf of the Council by the Borough Engineer and Surveyor. Under that agreement the contractors were to demolish certain buildings for the Council and were to be paid for this work and retain the materials salvaged. The contractors claimed that the Council had appointed their borough engineer to execute the agreement on their behalf and that the agreement was made in accordance with the standing orders of the Council and, accordingly, the contractors relied upon Section 266 of the *Local Government Act*, 1933. The contractors also claimed that Section 74(2) of the *Law of Property Act*, 1925, authorized the Council to appoint someone to sign, on their behalf, which, they said, the Council had duly done.

Dealing first with the argument based on Section 266 of the Local Government Act, 1933, the Lord Chief Justice said:

"I cannot agree that this Section affects the age-old requirement of the common law as to the necessity of a seal to bind a corporation. Standing orders deal with the internal affairs of the body making them and . . . do not affect other persons such as those who contract or desire to contract with the corporation. The statute requires that the Standing Orders shall provide for certain steps to be taken before contracts are made. . . . The party contracting or proposing to contract with the

corporation is not concerned with whether the corporation has acted in accordance with their standing orders and, if otherwise valid, a contract will be binding though the orders may not have been followed, but I can find no words entitling me to say that if a corporation does comply with their standing orders the seal is no longer necessary either to bind them or to confer contractual right upon them."

The Lord Chief Justice then turned to the effect of Section 74(2) of the Law of Property Act, 1925. That Section, he said:

"authorizes the appointment of someone to sign on behalf of the corporation an agreement not under seal, but that can only refer to the execution of an agreement which would be binding on the corporation in spite of the absence of a seal. These could only be contracts which fall within the exception to which I have already referred as, for instance, the engagement of a menial servant such as a porter or housekeeper at the town hall or, perhaps, for the purchase of small quantities of goods needed for the day-to-day service of the offices as they might come within the words 'the doing of acts very frequently recurring', but this section cannot, in my opinion, in any way validate an agreement which is not under seal and does not fall within the recognized exceptions unless indeed it be made under some authority conferred by statute upon the particular corporation."

It was accordingly held that the demoltion contract with the Council could not be enforced. There will be those who will note with interest Lord Goddard's view when, in conclusion, he said:

"Though it may be distasteful to give effect to a technical defence of this description, it is a valid defence in law and, accordingly, it follows that the action cannot be maintained."

Development Plans

The Minister of Housing and Local Government has given his approval to the development plan for Southampton, subject, as usual, to modifications. This leaves 55 plans, which have been the subject of a hearing or inquiry, awaiting approval, as well as the recent Peak Park Plan which has only been the subject of an inquiry in the last month.

Coming Events

Royal Institute of British Architects

December 14-28 (closed 25 and 26). "Architectural Treasures of Czechoslovakia". Monday-Friday, 10-7: Saturday, 10-5. At 66 Portland Place, W.1.

The Building Centre

December 19 at 12.45 p.m. Lunchtime film show. Documentary Films (Central Film Library) "Brief City" (Festival of Britain) and "Festival in London". At 26 Store Street, W.1.

Victoria and Albert Museum

December 19 at 6.15 p.m. "English Furniture Designs of the Eighteenth Century", by Peter Ward-Jackson, Assistant Keeper in the Victoria and Albert Museum. At South Kensington, S.W.1.

Institute of Landscape Architects

December 20 at 6.15 p.m. "Swiss Landscape", by Maurice Lee, A.R.I.B.A., at the Housing Centre, 13 Suffolk Street, Haymarket, S.W.1.

In Parliament

Regents Park Development

The Minister of Agriculture, Fisheries and Food is among other things Commissioner of Crown Lands, and because of this he was questioned by Mrs. L. Jeger about vacant Crown properties in Regents Park and the use of others.

Mr. Heathcoat Amory told her that there were 50 Nash terrace houses and 27 mews flats vacant. Mrs. Jeger pressed him to make these properties fit for people to live in as quickly as possible, because of the housing shortage in central London. Mr. Amory agreed that this was desirable, but pointed out that there were particular difficulties. Negotiations for most of the houses in Cumberland Terrace to be used for a hostel for London University had lapsed. This was not a question merely of conversion but of the long-term reconstruction of the Nash terrace houses, which was a very big project.

Mrs. Jeger turned to the use of the houses for offices or other non-residential purposes, asked how many were being used in this way, and what plans the Minister had for converting them into flats. Mr. Amory told her there were 178 houses in this category. Their future would be considered by the Board of Crown Estate Commissioners which was about to be appointed. Mrs. Jeger urged him to take the best advice, emphasizing that many big houses in London had been converted for practical use. Mr. Amory agreed that this was the kind of long-term solution that ought to be adopted, but it could not be done piecemeal. The whole project was an enormous one. (December 6.)

London Area Factories

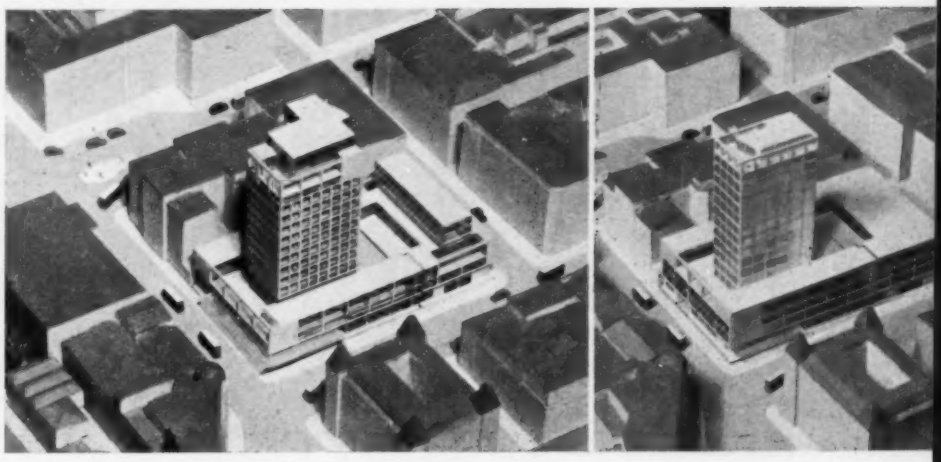
Mr. Jay asked the President of the Board of Trade what action he intended to take to restrain the further growth of factory and office employment in London. Mr. Erroll, the Parliamentary Secretary, told him that the policy of successive Governments would be continued—or resisting, where the Minister had power to do so, the introduction of new industrial firms into the London area. Applications to extend by firms already established in this area would continue to be dealt with on their merits. The Board of Trade had no power over offices as such.

Mr. Jay asserted that the housing situation in London was worse than it had ever been, due to the excessive growth of factory and office employment. Would the Board of Trade take its powers more seriously? Mr. Erroll replied that the Department was taking its powers seriously. There were a number of conflicting factors that had to be taken into account. (December 4.)

St. Paul's Precinct

Mr. Parker asked the Minister of Housing and Local Government what further action he proposed to take in regard to the planning of the precincts of St. Paul's Cathedral. Mr. Duncan Sandys said he was waiting for the London County Council to submit for his consideration an amendment of the County of London Development Plan making new provision for the planning of the precinct. (December 3.)

The Minister of Works told Mr. Vane that a contract for demolishing the old bridge in St. James's Park and erecting the new bridge had been let, and preparatory work would start immediately. (December 4.)



Right, models of the two schemes. That on the left is the first scheme, modified, which is preferred by the New Zealand Government; that on the right is the second scheme, designed to meet the criticisms of the Royal Fine Art Commission but still opposed by it. At the foot of the page is a view from the Mall showing the tower of the second scheme as it would appear amongst the trees

PROPOSALS FOR NEW ZEALAND HOUSE

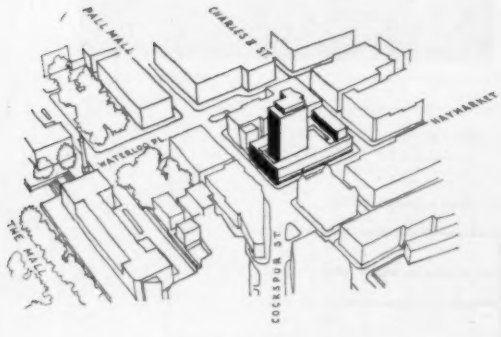
architect: PROFESSOR ROBERT MATTHEW

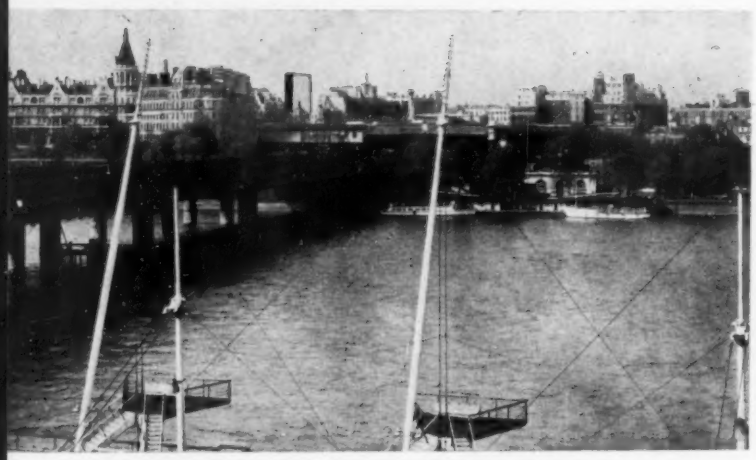
AS described in last week's issue, the proposed new New Zealand House in the Haymarket has encountered opposition from the Authorities. The original design by Professor Matthew which we illustrate overleaf, was opposed in principal by the Royal Fine Art Commission when submitted to them informally. The Commissioners of Crown Lands said they would be unable to recommend the approval of the scheme, but invited the submission of an alternative design, still in the contemporary idiom if it were wished, and with a tower. Professor Matthew prepared a new design with a lower tower, and formally submitted this to the Commission. This second scheme had an extra floor on the lower part and a redesigned tower—lower, slimmer and rectangular in plan. This scheme is also illustrated on the following pages to show how it compares with the first, and with it we show a number of photographs as it would appear when seen from various points in Central London.

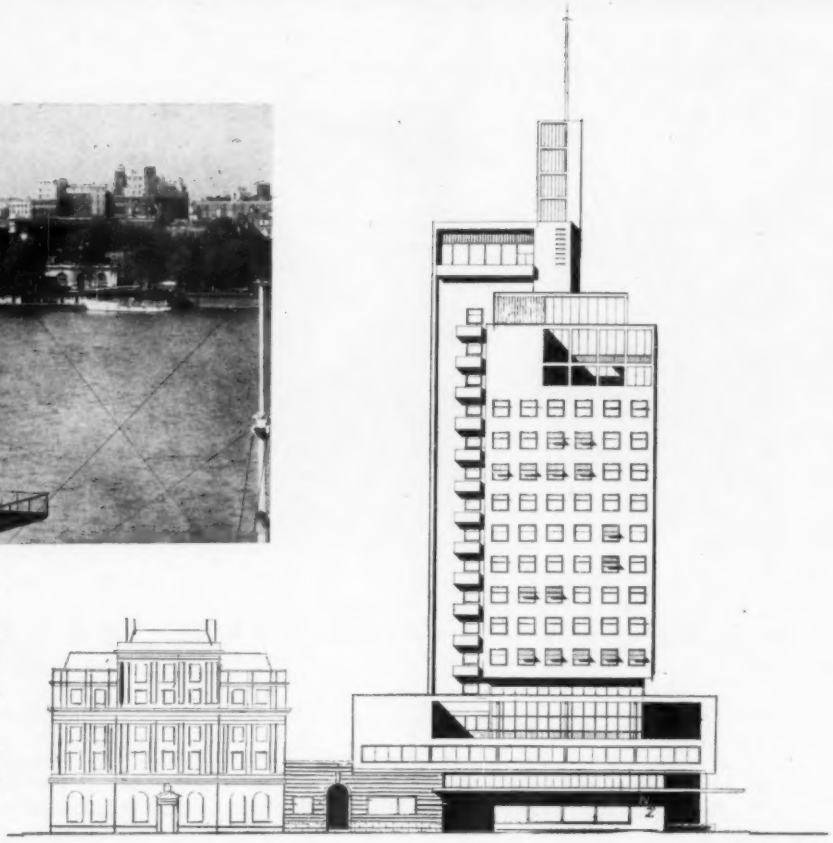
The R.F.A.C. have criticized the second scheme also, because "it would be extremely damaging to its surroundings. The tower would overtop neighbouring buildings and look quite incongruous from St. James's Park and from the Mall".

In the meantime, however, the second scheme having been referred to the New Zealand Government in New Zealand, they have said that they prefer the original design, modified in certain respects to meet the criticisms of the R.F.A.C. The modification of the first scheme consists of removing the flag-pole, tower and squash court down to the 207ft level— compared with a total height of nearly 320ft in the first place and 204ft in the second design—and this is the scheme advocated by Professor Matthew and the New Zealand Government.

In the words of the architect, the design of New

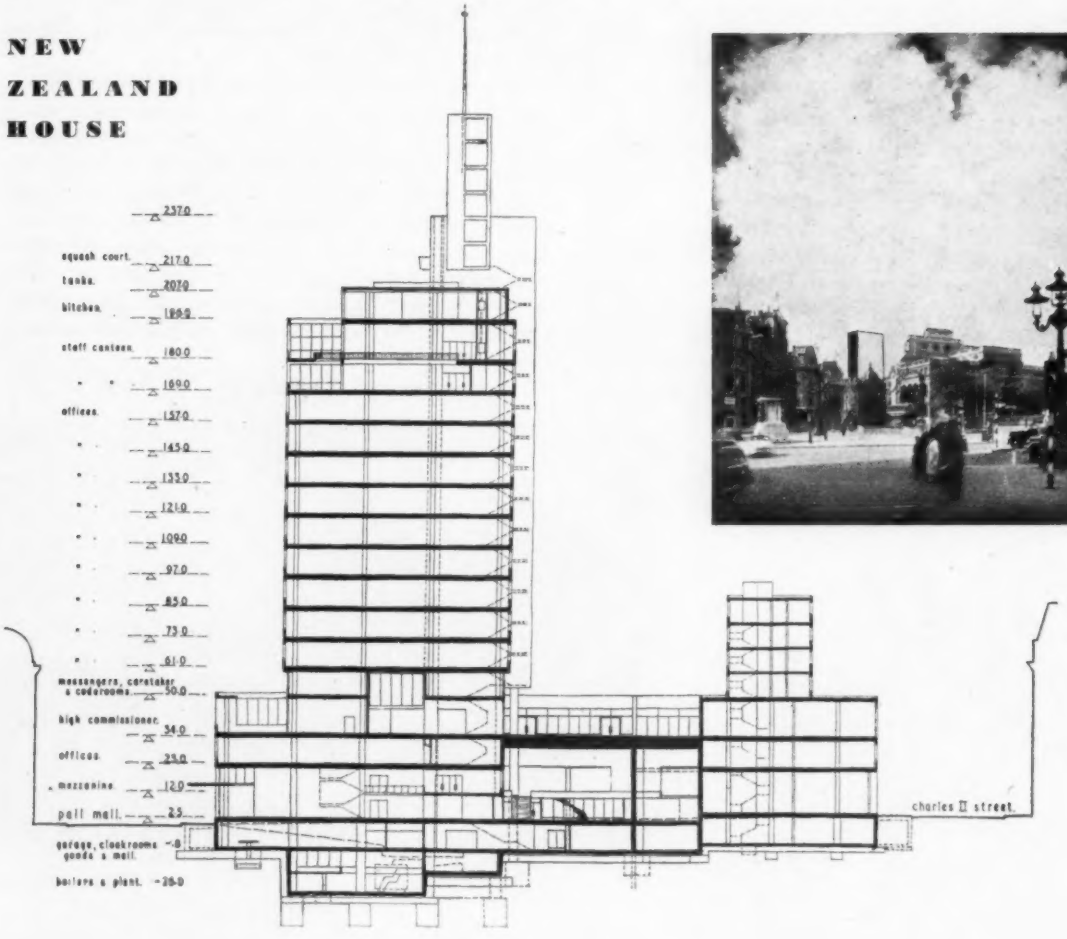


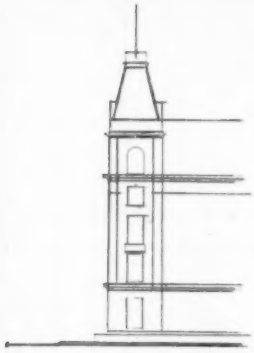


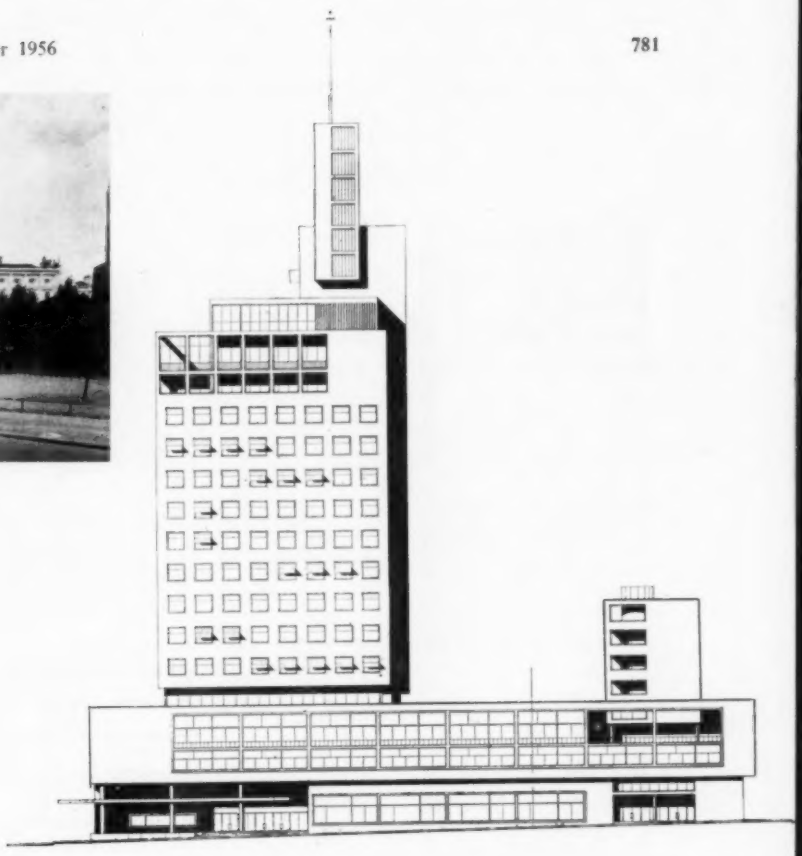


Above, a view from the Royal Festival Hall showing how the proposed tower would culminate the vista up Northumberland Avenue and Cockspur Street. Right and below, elevation to Pall Mall and section of the original scheme. It is now proposed to cut it short at the 207ft level. The photograph on the right shows the building as it would appear from Trafalgar Square

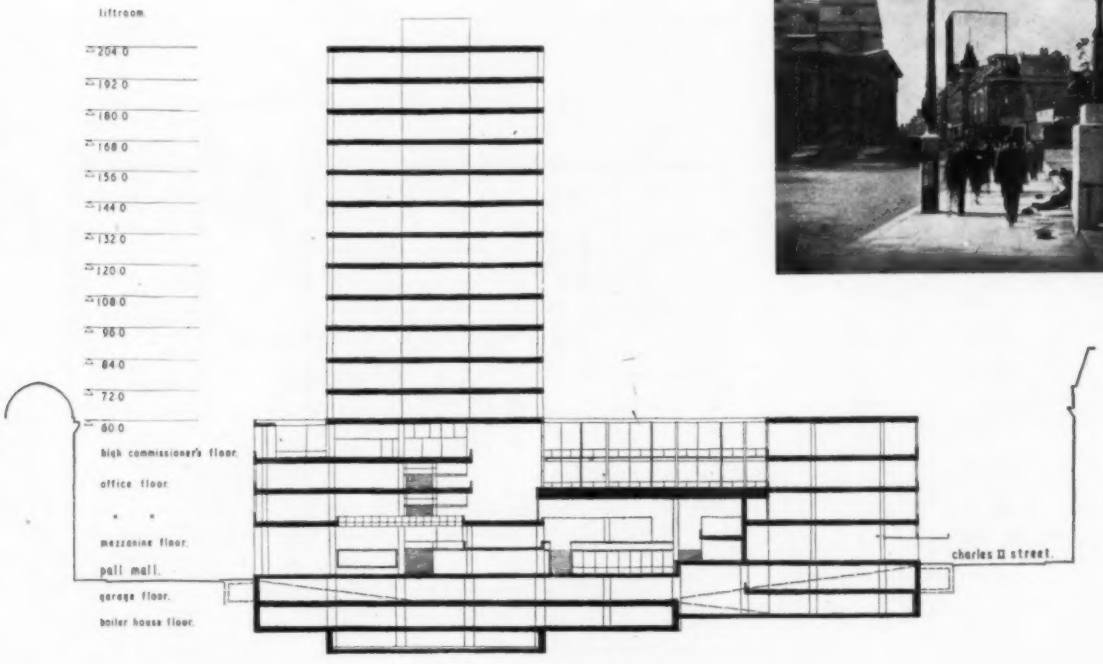
NEW ZEALAND HOUSE







Above, the tower of the second scheme as it would show above the top of Carlton House Terrace, seen from the entrance to Horse Guards Parade. Above right, Haymarket elevation of the original scheme, scale 64ft = 1in. Below, section through the second scheme, showing the reduced tower height and increased lower block compared with the section on the facing page. Right, a view from outside the National Gallery



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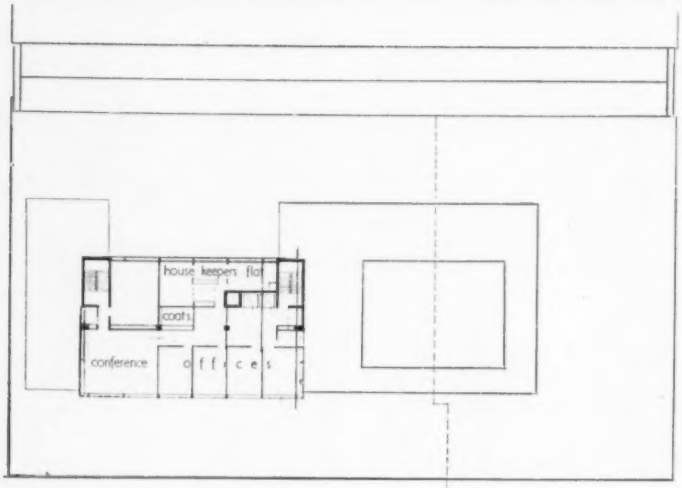
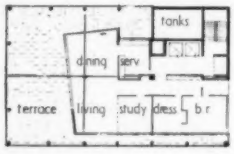
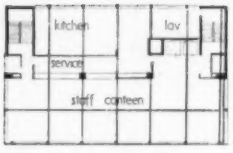
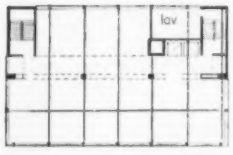
NEW ZEALAND HOUSE

Zealand House has been determined by the consideration to provide on this unique central site a building worthy both of New Zealand and London. The planning of the building is a complete departure from the nineteenth century courtyard type of plan that has, unfortunately, been used for office building in Central London for too long. The building is unmistakably modern in its design in the belief that the best compliment that can be paid to the older buildings sur-





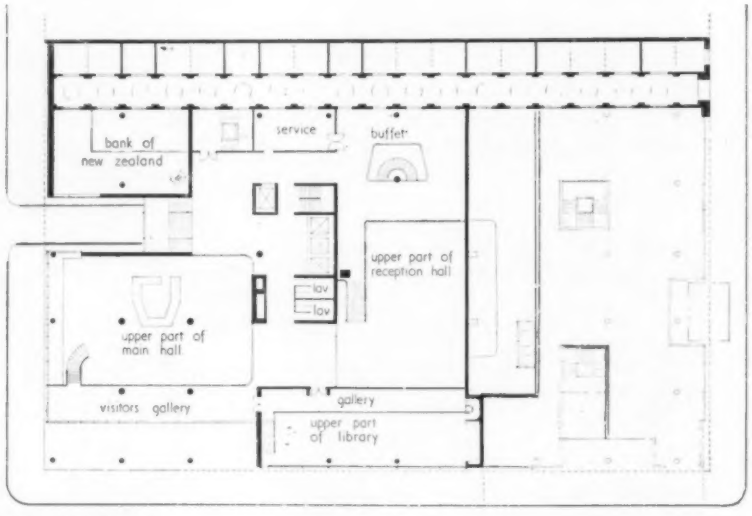




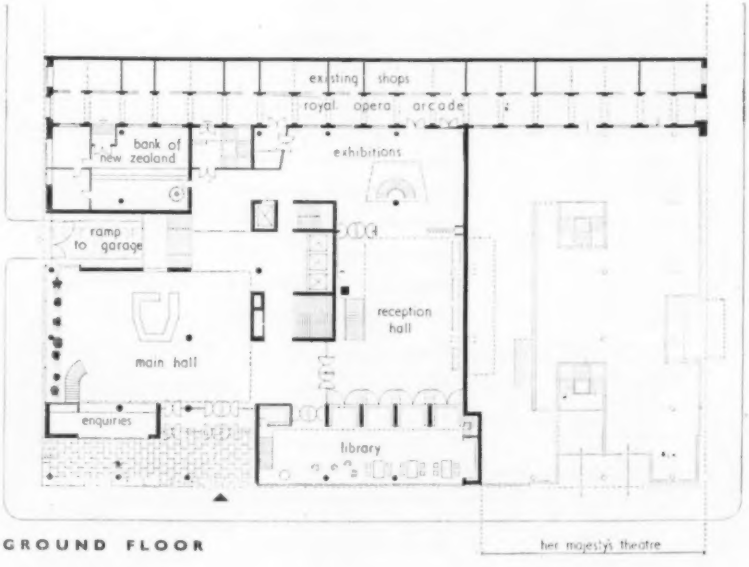
THE SECOND SCHEME

Above are plans of the second scheme. From top to bottom they are: the first floor of the tower; the top floor, which is a flat for the New Zealand Prime Minister; the two floors below the top one, which are respectively the canteen and a typical office floor.
Because of the reduced floor area in the tower an extra floor of office space is added to the lower block in this scheme

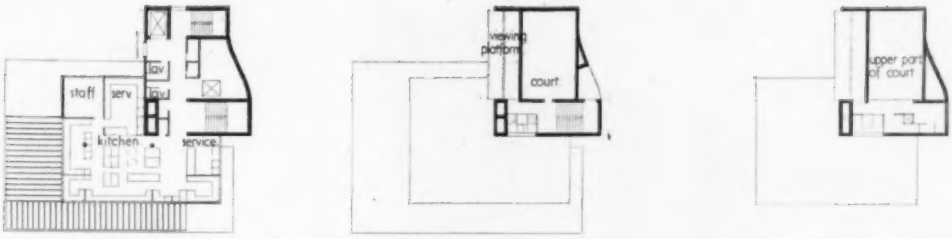
THE FIRST SCHEME



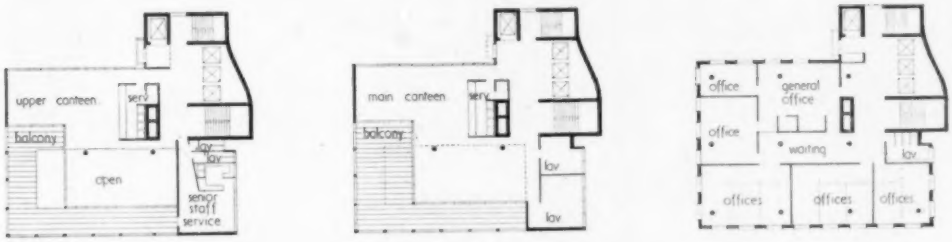
MEZZANNINE

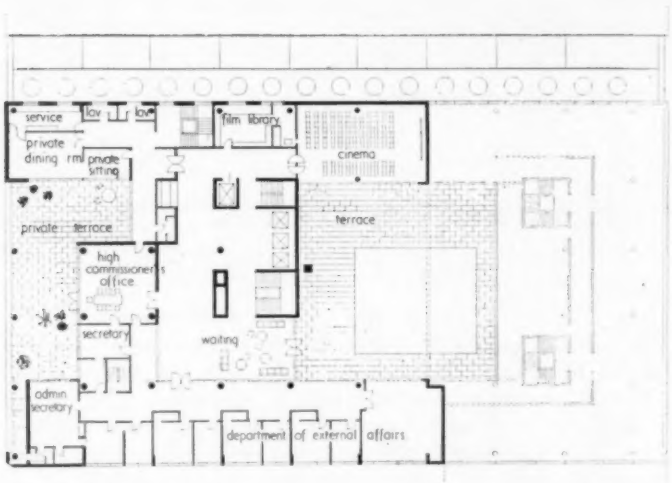


GROUND FLOOR

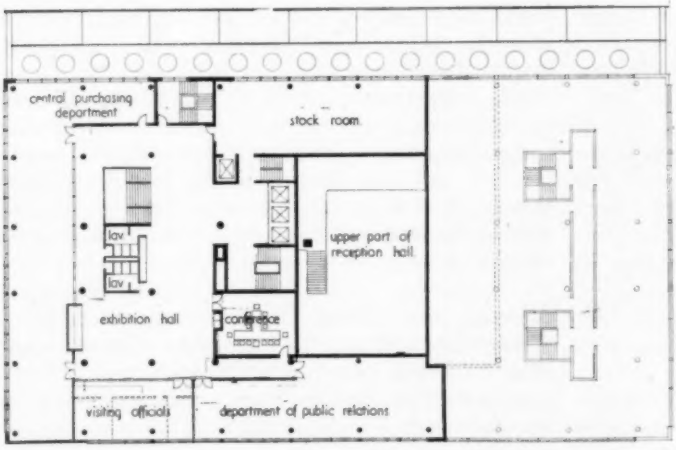


THE TOP FIVE FLOORS & TYPICAL OFFICE FLOOR SCALE: 1 IN = 64FT





SECOND FLOOR



FIRST FLOOR

rounding the site is to design the best possible building for its day and age; a principle that has been followed in all the great ages of architecture in the past.

On the ground floor, Royal Opera Arcade will be retained but will be much improved by opening up almost the whole of the east side, which is at present a blank wall, with views into the public areas on the ground floor of New Zealand House. The low base of the building will also have some office accommodation on the first floor, the top floor being reserved for the offices of the High Commissioner opening onto a private roof terrace overlooking Pall Mall.

The building is planned as a unit with two contrasting elements. First a low base with street frontages in scale with its more worthy architectural neighbours, notably the Athenaeum Club and the National Gallery, both of which are low in height; secondly, as a dramatic contrast to the first, a vertical tower well set back from the street frontages and forming a bold climax to one of the longest street vistas in Central London. A continuous view of the tower can be obtained down Cockspur Street, across Trafalgar Square, via Northumberland Avenue and across the Thames to the Royal Festival Hall; a vista which is quite unremarked at the present time.

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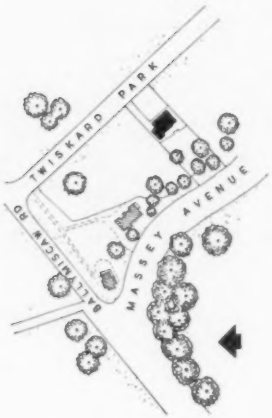


South-west elevation. The living room is on the first floor and the bedrooms below

Architect's Own House, Belfast

Architect: JAMES F. MUNCE

THE house was built for the architect, his wife and two boys. The site is of restricted width, in a closely built-up suburb, and it slopes steeply from a private road to the main thoroughfare on the south-west boundary.

Heavy traffic, including trolley buses, passes along the main road to the south-west, but as this road is thirty feet below the ground floor level of the house the architect decided to place the living rooms on the upper level with the bedrooms below. Thus anyone seated in the living area is unaware of vehicles passing within 150ft, seeing only the finely wooded middle foreground and the range of hills on the skyline.

The entrance to the house is through a glazed door on to the staircase, from where four steps rise to the living area and ten descend to the bedrooms. The planning of this upper floor is open, comprising a large living-room, a dining space, kitchen and playroom. The complete south-west wall of the living room is glazed to exploit the view.

The disadvantages of this large expanse of glass have been overcome by the use of venetian blinds and wide overhanging eaves.

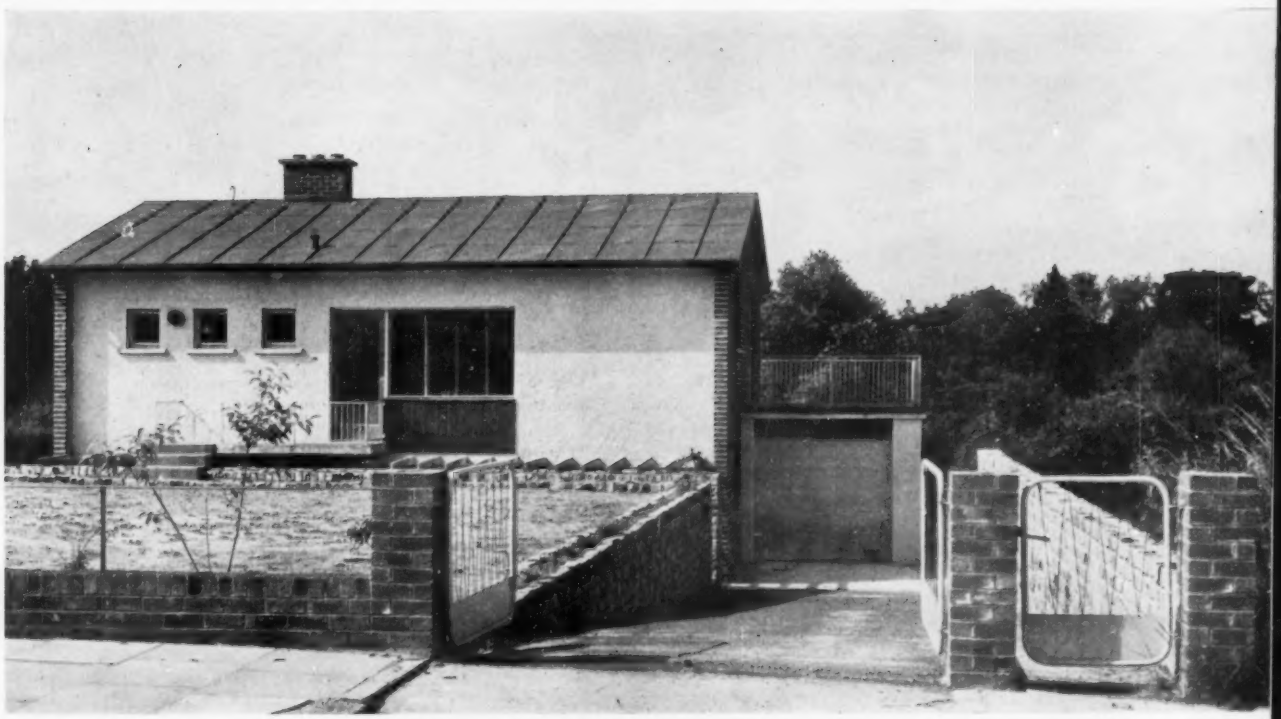
A continuous cupboard wall fitment forms the division between the living-room and the staircase. It contains a writing desk, a radiogram with record storage racks, a glazed cabinet for drinks, and a number of adjustable shelves set on Tonks fittings. The unit is faced in birds-eye maple, with the reveals of the individual compartments in mahogany.

The natural materials in the living room include a wall of dark blue engineering bricks with white mortar joints. The fireplace opening, in which is set an individual dog grate, is flanked by two slabs of deep yellow Jean-cocquille marble. Above the teak mantelpiece there is a chimney breast of sandlime bricks rising to the ceiling. The hearth is faced with 3in diameter variegated marble chips, multi-coloured and laid to a random pattern.

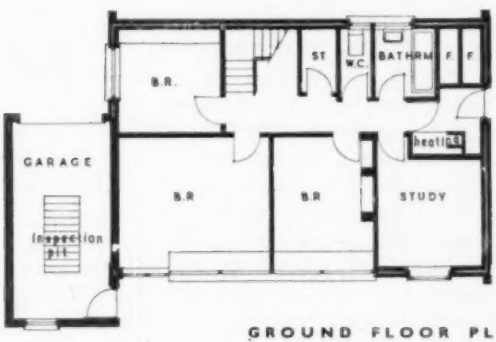
The dining-space, related to the kitchen and the living room, has one wall of sandlime bricks. The two remaining walls are sheeted with clear Canadian maple, and the openings have purposely been kept small. Incorporated with one of these is a dresser cupboard for storage of crockery and cutlery, whilst the other is a raked back plant window.

The playroom is lined with sundeala board, plugged direct to the brickwork, allowing for the pinning-up of drawings and pictures without harm to decoration and finish. A floor to ceiling cupboard, storage for toys, covers one complete wall, and another wall is completely covered by a blackboard. A low-level shelf, for kneeling at, is built against one wall.

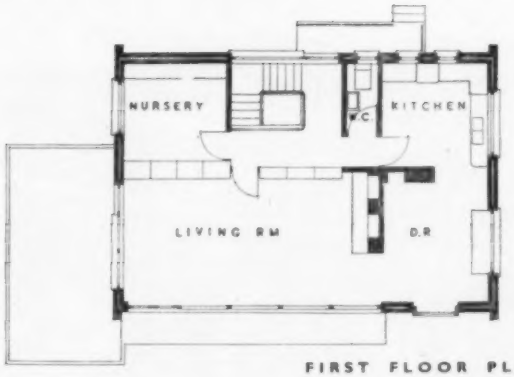
The floors of the living area are of teak strip, waxed



Elevation from the road with Twiskard Park in the background



GROUND FLOOR PLAN



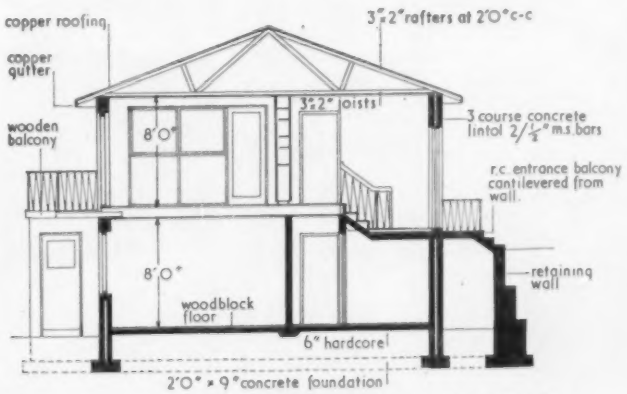
FIRST FLOOR PLAN

and polished, battened together and floating on fibreglass laid across the timber joists. The inter-joist spaces are spanned by asbestos sheet on which is spread a 1in layer of inert coke and cement pugging. This treatment successfully prevents any transmission of sound from the living floor to the sleeping rooms beneath.

The staircase well is lined with natural finished African hardwood in 2in strips, and the mahogany veneered Dutch flush doors are set in ivory painted solid pine frames.

The mahogany treads to the staircase are cantilevered from either side of a yellow painted rolled steel carriage spanning from ground floor to first floor level. Six steel uprights support a teak handrail, and white nylon rope secured through brass rings serves as a balustrade.

There are four bedrooms on the lower level. From the main bedroom doors open on to a terrace paved



SECTON SCALE : 1IN = 12FT

with seashore stones and small cobbles. Another bedroom is used as a studio-study, and by closing-up the front of a drawing bench the room may be converted

Architect's Own House

The dining room seen from the living room

The fitment in the living room

into use as an occasional sleeping area. There are also an airing cupboard, a bathroom with separate W.C. and a heating chamber.

The ground floor concrete is covered by cork slabs and a teak block floor is laid basket pattern upon this layer of insulation. Carpets and rugs cover part of the floors in the sleeping areas, and all the furniture is purpose-made.

Central heating is by ducted warm air. The solid-fuel burning heating unit is built into an insulated-slab lined compartment in the heating chamber; contained in the chamber are two fuel bins, for coal and coke, and an equipment locker.

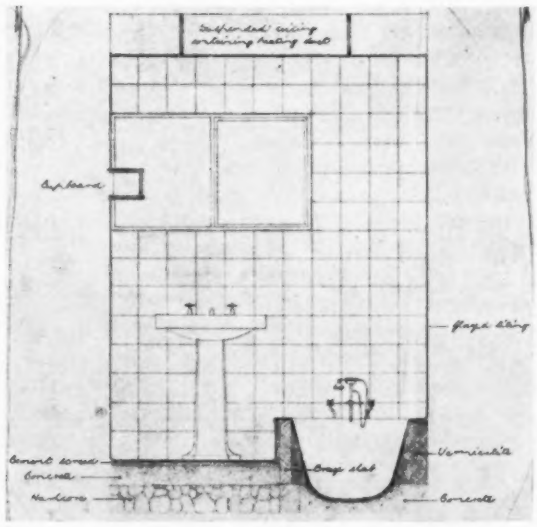
The insulation qualities of the house are in strict accordance with the Egerton standard for prevention of heat loss. The outer skin of the external wall is of local rustic brick, plastered in part, and the inner skin is of Broad Acheson blocks. All the bedrooms and the playroom have cupboards on the external walls, and these cupboards are in turn lined with woodwool slabs. Vermiculite plaster covers the remaining walls that are not lined with hardwood sheeting on insulation board lining.

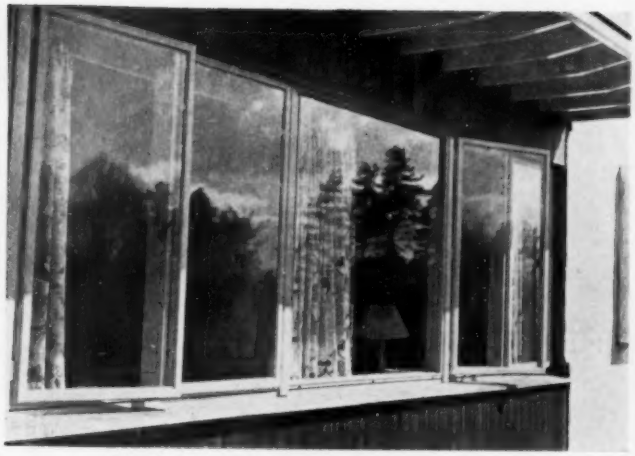
The ceiling of the living area of the house is made up of 2ft squares of insulation board, fitted to aluminium strips. Over this is laid a complete layer of Fibreglass to conserve heat within the structure.

The copper sheeted roof is laid to diagonal sarking on timber trusses. The copper sheets, all rainwater goods in copper and cill coverings were factory-made.

The house was occupied six months after work was commenced, and has proved satisfactory from a living aspect. The central heating system has proved economical and efficient, greatly aided by rigid adherence to heat loss reducing standards.

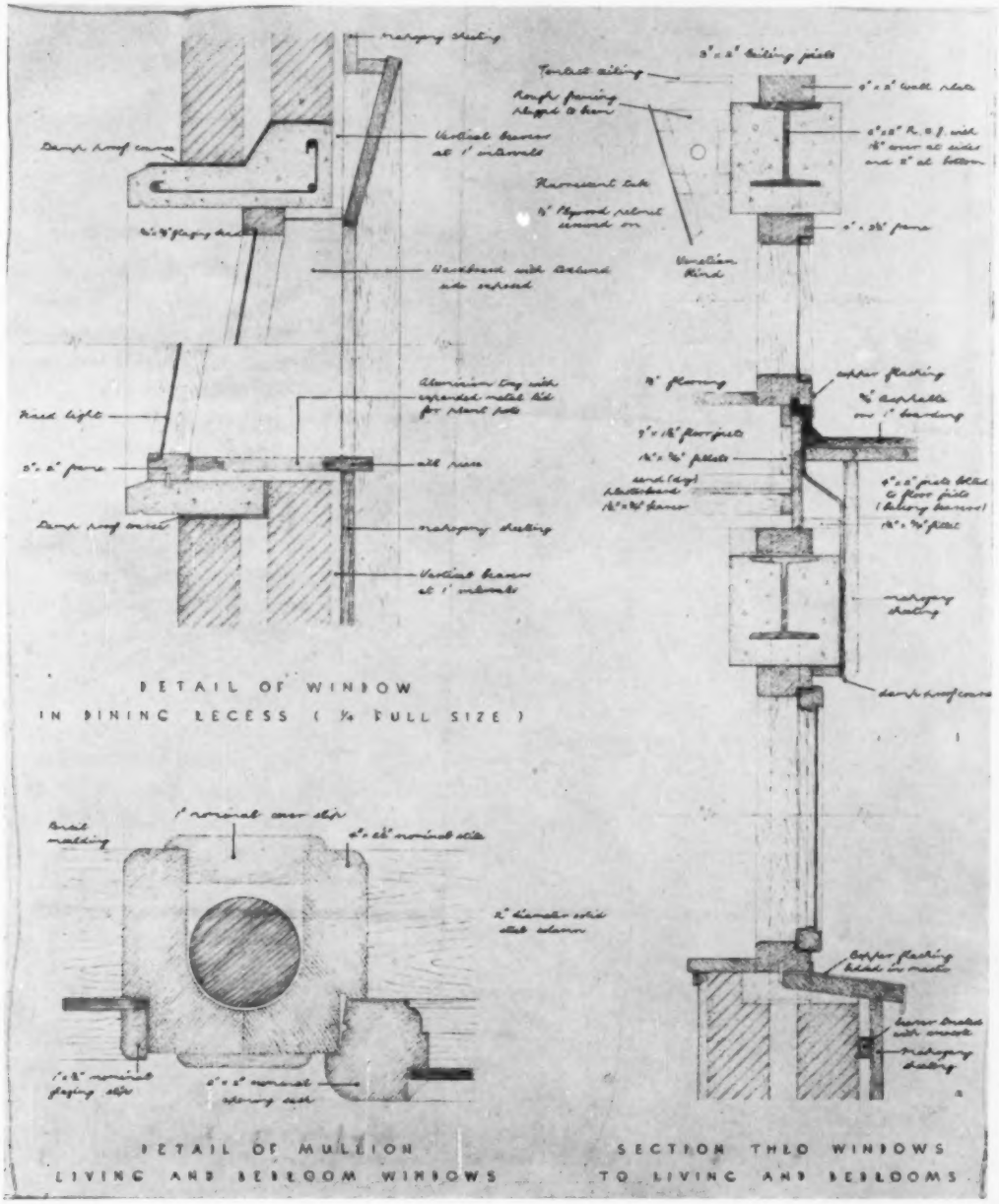
Section through the bathroom



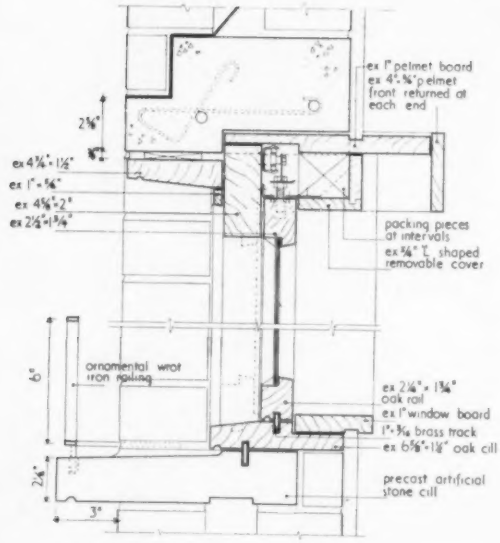


The bedroom windows with canopy over

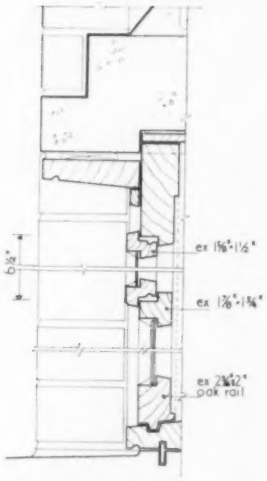
The living room, looking out over the park



A reproduction of some of the window details, scale 1in = 1ft. The section on the right shows the living room and bedroom windows which are illustrated at the top of the page

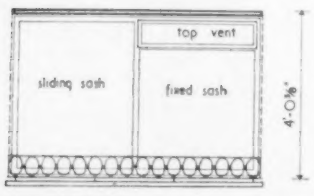


SECTION THRO' SLIDING SASH

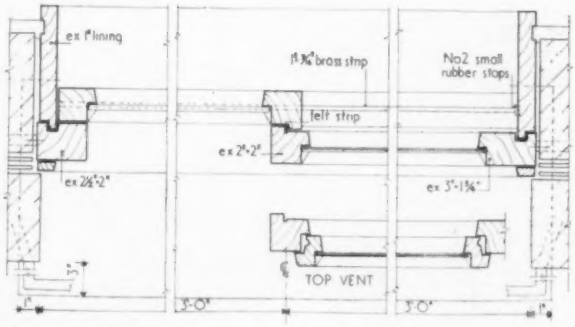


SECTION THRO' TOP VENT AND FIXED SASH

Details of the sliding windows to the living room scale ⅛th full size



KEY ELEVATION



DETAIL OF JAMBS

Details from a Pair of Cottages in a Chelsea Mews

architect: EDWIN BURCH

THESE two rebuilt cottages in a Chelsea mews that was bombed (briefly illustrated overleaf), contain some interesting domestic detailing. The ground floor living room windows had to have sliding sashes because large sheets of glass could not be pivot-hung or side-hung without causing an obstruction to passers-by in the mews. The windows, as well as the kitchen fittings, were made by the Holloway Joinery Works, the joinery works of Hall & Haywood Ltd., the general contractors for the job. The sliding sash is in oak and is top-hung with a brass track guide-rail at the bottom. There is also a top-hung outward-opening vent above the fixed part of the window. A small wrought-iron railing, made by W. N. Froy & Sons Ltd., provides a certain amount of protection as well as permitting flower-pots to be safely placed on the cill.

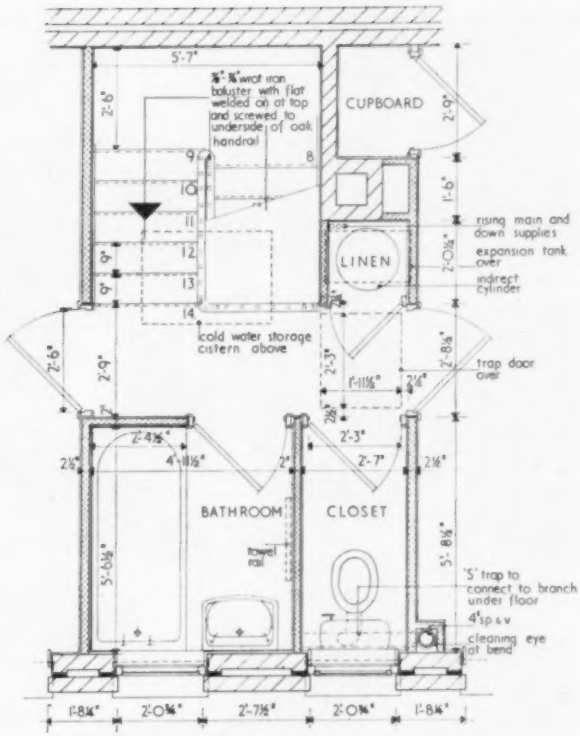
There is a skylight in the roof above the staircase to allow some direct sunlight into the interior; it was not possible to have any windows in the back wall, so all the windows are unavoidably facing north. The central core in each cottage which contains all the services has been kept remarkably compact, to allow the greatest possible area for the main rooms. The water storage cistern is insulated with 3in of slag wool contained within boarding.

The ground floor has 1in of fibreglass insulation on top of a 4in slab, with 1in tongued and grooved flooring on battens laid over it.

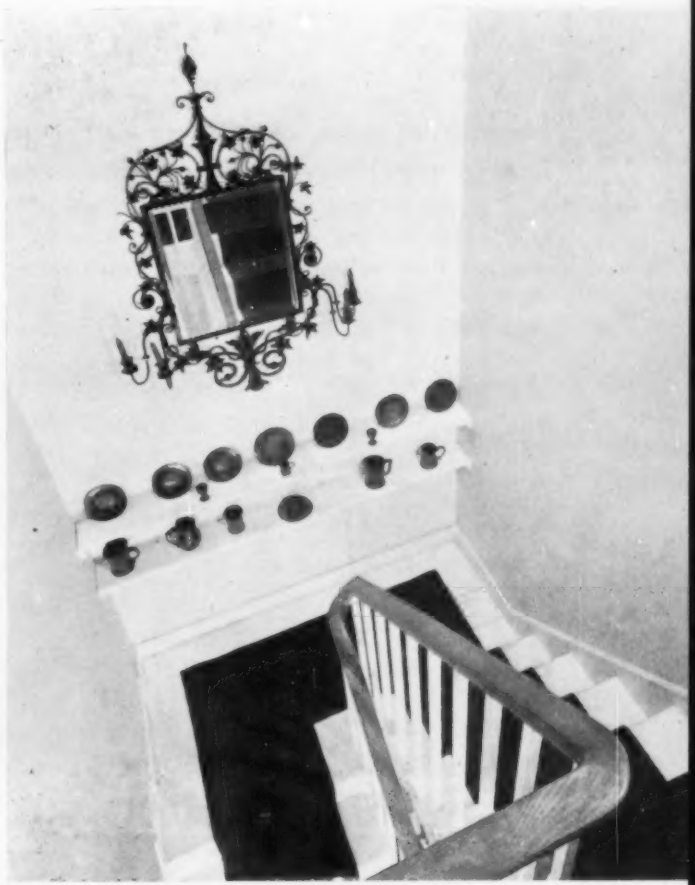
The kitchen fitments have a working top of plastic sheet on blockboard and the draining board is of 1in teak.

sub-contractors:

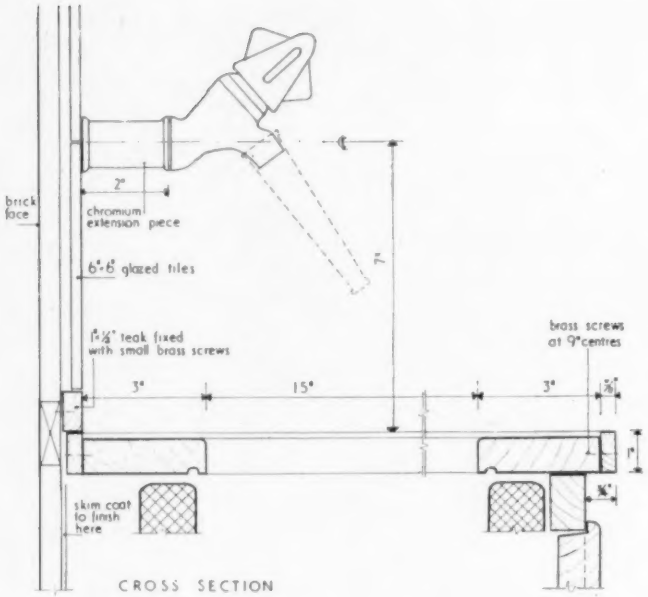
Artificial Stone: Barking Reconstructed Stone Co. *Bricks:* The London Brick Co. Ltd. *Damp Proofing:* R.I.W. Protective Products Ltd.; George M. Callender & Co. Ltd. *Ironmongery and Iron Railings:* W. N. Froy & Sons Ltd. *Plumbing and Hot Water Installation:* Mumford, Bailey & Preston Ltd. *Sanitary Fittings:* W. N. Froy & Sons Ltd. *Slates:* Setchell & Sons Ltd.

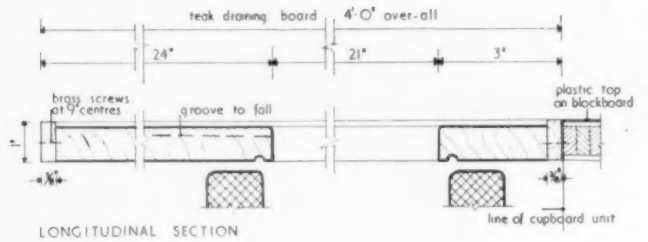


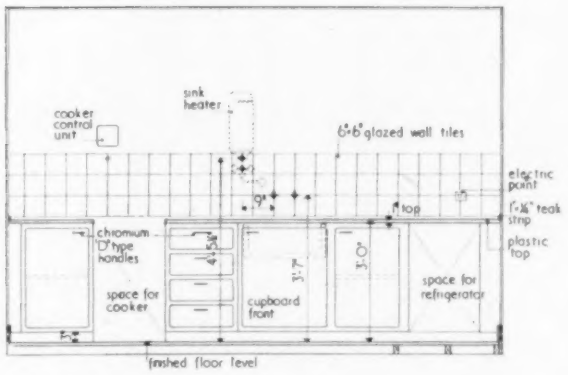
Plan of the staircase and services at first floor level, scale 1in = 4ft



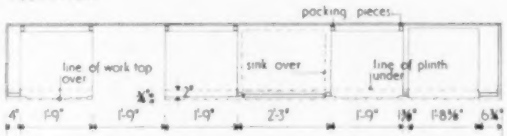
Chelsea Cottages



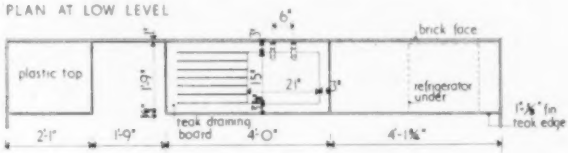




ELEVATION



PLAN AT LOW LEVEL

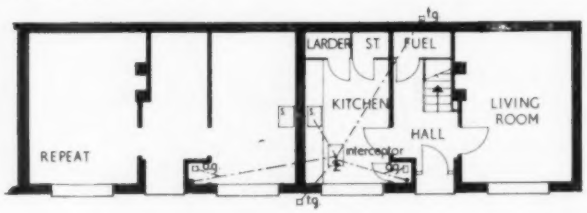


PLAN OF WORK TOP

Details of the kitchen, scale 1in = 4ft and ¼ full size. Below, a photograph of the two cottages in the mews (one is colour-washed pink and the other grey). Plans are to a scale of 1in = 15ft

FIRST FLOOR

GROUND FLOOR



PLANNING by "E.&O.E."

Transport

IN this section the various aspects of transport are considered, which are applicable to more than one type of building. These aspects are the ones which affect the planning of buildings and the layout of sites. The vehicles considered range from prams and cycles to commercial vehicles and buses.

Certain of the smaller vehicles mentioned, such as prams and push-chairs, require to be brought right into buildings and information is therefore given regarding door widths, storage space and so on.

For mechanized vehicles information includes: dimensions of vehicles, drive widths, sizes for turning circles and, details for garaging or storage and for parking. The sizes and requirements for garages are shown if they are applicable to more than one type of building but, when, as with bus stations and multi-storey garages, they form complete building types in themselves they will form separate sections of "planning".

The sizes for car parks and the number of garages required specifically for any one type of building or group of buildings will be given in the section of "Planning" appropriate to that type of building.

Where the widths of drives and the diameters of turning circles are given, it should be noted that these are the requirements for the particular vehicle under consideration. In most applications these dimensions should be based upon the largest size of vehicle which is likely to use the driveway.

The information given is for use in the layout of sites and is not suitable as a basis for the design of public roads, where legislation exists for the determination of road widths.

There are several Acts of Parliament and a considerable number of statutory regulations and orders which set out specific requirements as to vehicle sizes and as to storage of petrol and these have direct bearing on the design of buildings and layouts connected with motor vehicles. A licence is required for the storage of petrol if more than three gallons is stored and if it is in containers exceeding one pint each.

Picture : L.T.E. Bus Garage for overhauls and repairs, Aldenham, Herts

Planning 4

Transport

PRIVATE GARAGES

Motor-cars vary in length from about 9ft 6in to 18ft 6in overall, but for general purposes a length of 16ft in the clear may be assumed for a private garage. Car widths vary from 4ft 3in up to 6ft 6in. At least 18in extra should be added to these widths to allow the car doors to be opened and for circulation round the car.

Diagram A shows average dimensions for use with all but exceptionally large cars, and in diagram B the dimensions will cater for the largest private motor-cars made in this country. These dimensions should be enlarged wherever possible particularly to provide for storage and bench space. The figure also suggests suitable door widths, the dimensions given being in the clear between frames. Few private cars exceed an overall height of 7ft and doors with a clear opening height of 7ft 6in are satisfactory. The width of a garage for two cars, diagram C, may be slightly less than double that housing only one, but it should not in any circumstance be less than 14ft.

The figure shows a garage 16ft long by 11ft wide. These dimensions allow for all except the largest British cars as well as for a bench and shelves at the side of the garage. A batten fixed on the floor is useful to prevent overrunning when driving into the garage. It is desirable that a window is provided, the position of which is dependent on the proximity of the adjoining buildings but should be so placed that it lights the part of the garage away from the doors. Where electricity is available a lighting point should be installed in a position approximating that shown in the diagram, together with a power plug. Doors, when opening outwards, are better in four folds rather than as a pair, since they occupy when open, less space: when slide-inside types are used they must of necessity be in narrow widths. There should be a slight fall on the paving at the entrance to lead water away from the garage floor, which itself should be level.

In larger houses and where the site frontages permit, garages may be associated with the individual house, either as a separate building or attached to or forming part of the house itself. When a chauffeur is employed, garages may with advantage be at some distance from the house, especially if living quarters are attached or planned over the garage, but when the vehicles are owner-driven, the garage should be close to the house and, if possible, it should be in close proximity to an entrance. By the use of an attached garage additional bedroom floor area may be provided, if needed, by building over the garage; if, however, rooms are to be built over the garage, a fire-resisting floor, and, if possible, a floor resistant also to petrol fumes, is essential. If the garage is incorporated within the walls of the house, no direct communication is allowed in most districts, but it is sometimes possible to arrange a ventilated lobby between the garage and the house proper. Great care must be taken in all circumstances to reduce fire risks due to petrol storage. Detached garages should have roofs which will delay fire if they are planned near houses. Ventilation should be provided in all garages at a low level to remove heavy fumes, in addition to high-level ventilators for general ventilation of the space.

WASHING SPACES

These are better placed out of view from the approaches to the house, although this is frequently impossible on a small site unless doors are provided at each end of the garage and the car is driven out to a space at the back for washing purposes. The washing space should be made of concrete, with a smooth surface laid to fall to a gully which is best placed centrally, so that the person washing does not have to stand in running water. The regulations for gullies vary in different districts. Some allow drainage to stormwater drains with an ordinary gully, especially if provision is made for one car only. Some require petrol gullies, and others require the drain to be into the soil system, either with or without special gullies. A good size for a washing space is 10ft wide and 20ft long, so as to ensure that water cannot splash dirt and mud on to the car from surrounding walls or other surfaces.

BENCHES

A work bench with shelves above and a cupboard beneath is a valuable addition to the garage, but care should be taken that it does not impede circulation round the car.

GENERAL CONSTRUCTION AND EQUIPMENT

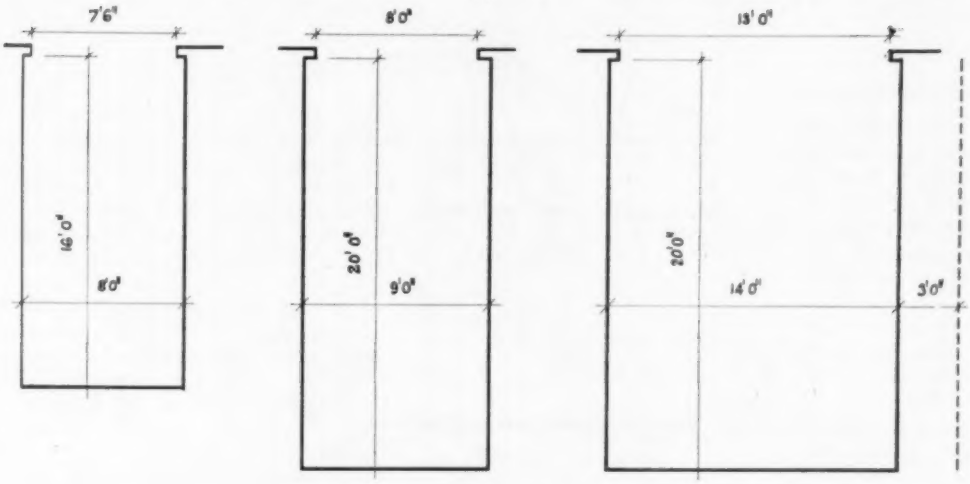
Garages may be permanent or temporary structures, but, in the latter case, insurance rates are liable to be increased. Walls do not need plastering internally. Floors should be of a hard material such as concrete, which will not be damaged by oil or petrol waste. Ceilings, which may be of plaster or asbestos and composition board, should be provided to assist in keeping the building warm in winter and fire-resisting construction is needed if rooms are built over the garage. Floors should be level, so that the car brakes may be released without risk of the car moving. A slight incline or run-up of about three-quarters of an inch in the width of the door frame helps to stop rainwater driving under the doors.

Windows should be placed so that the light is thrown on to the engine, and doors need not be kept open during repairs. An economical arrangement is to glaze a side entrance door. Doors may be of various types. The two-door type opening outwards and folding doors require more space than those sliding sideways on overhead tracks or opening vertically. Roller shutters are occasionally used. If doors open outwards, hooks to hold them are essential. Some form of heating is desirable to keep the temperature above freezing in cold weather.

The placing of artificial lighting points so that light is provided at the bench and over the engine is important. Two-way switches should be placed at each door if two points are provided. At least one plug point should be provided for a portable lamp, and an electric power point is desirable for charging batteries.

A cold-water supply is needed for car-washing purposes, and to avoid the risk of freezing, this connection is better if placed inside the garage, while the valve should be equipped for a hose connection. The addition of a lavatory basin is a great asset, especially if a non-resident chauffeur is employed.

The provision of curbs is unnecessary, but some form of stop is desirable to prevent driving too far into the garage. The most satisfactory stop is a baulk of timber fixed to the floor. An inspection pit is unnecessary unless several cars are kept and all repairs done at home.

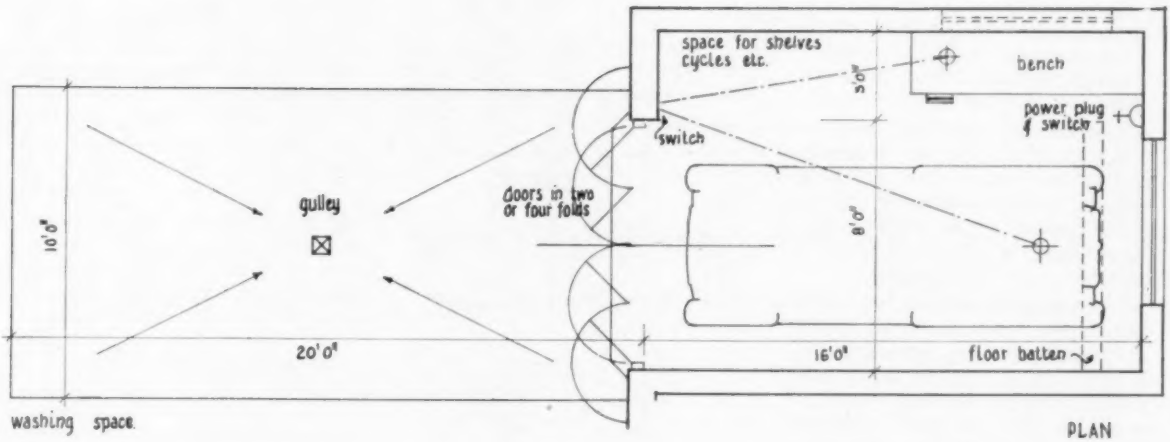


A· average single

B· maximum single

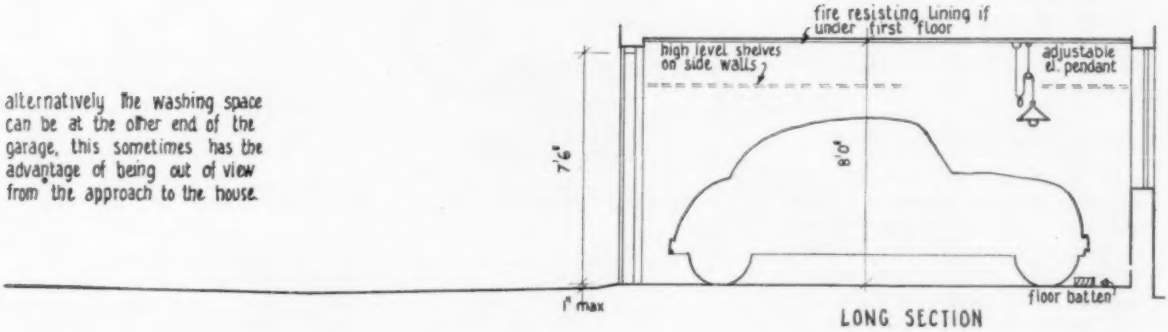
C· minimum double garage

If allowance is to be made for a bench in the garage an additional 3'0" will be required. Benches should be preferably placed at the side.



PLAN

alternatively the washing space can be at the other end of the garage, this sometimes has the advantage of being out of view from the approach to the house.



LONG SECTION

An explanation of the diagrams is given on the facing page

Planning 4
Transport

DRIVES AND TURNING CIRCLES

The minimum drive width should be 8ft to allow a car to pass a person in the drive and a greater width is very desirable. Gateways should never be less than 7ft 9in wide in the clear.

The minimum turning radius for the average car is 17ft 6in to the outside of the roadway, but 25ft is a more satisfactory allowance as it reduces the risk of damage to grass and curbs and to the wings of the car by contact with boundary walls.

The construction of drives should be sufficiently strong to permit moderately heavy traffic up to about 2-ton loads to pass over it without damage to the surface or foundations. Special heavy manhole covers and gullies are required for the same reason. Slight camber and falls to drainage gullies are needed; the former should be at least ¼in, preferably ½in, for each foot of width between the centre and the edge of the roadway.

Curves on driveways should not be of too small radius or there will be a risk of damage to curbs and verges; a radius of about 25ft to the centre of the road is generally satisfactory.

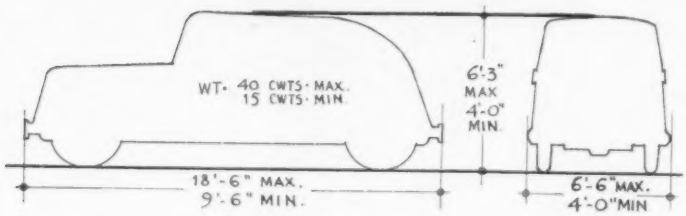
Two lines of stone flags in gravel drives spaced at about 4ft 6in centres, to take the average track of motor vehicles, saves considerable expense for re-topping and work with rollers. Some form of edging or curb is desirable to prevent damage.

Diagram A illustrates the minimum width which should be used if the roadway is sunk between curbs; if curbs are used proper drainage to gullies is essential, although it is in all cases desirable. It should be noted that the car track, which is the width between the centres of tyres, averages 4ft 8in for exceptionally wide commercial vehicles, which are unlikely to use private house approach roadways.

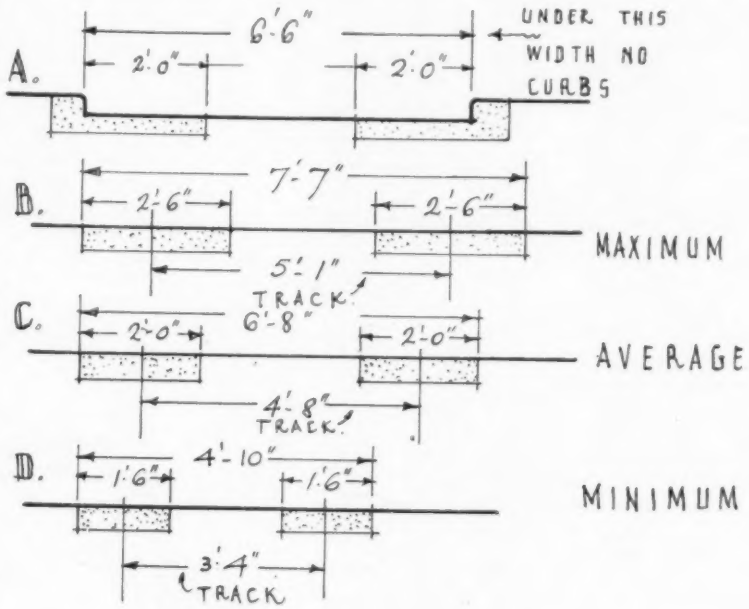
DRIVES ON SLOPING SITES

If gradients are necessary, they should be reduced as much as possible and 1 in 12 should be regarded as a maximum. A slope towards the doors of a garage needs special care to prevent water running past any outside gully and entering under the doors.

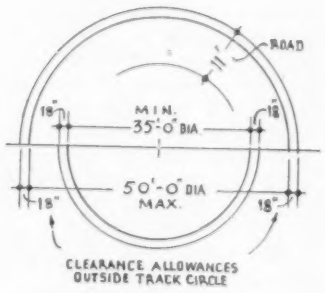
A sufficiently wide flat space must



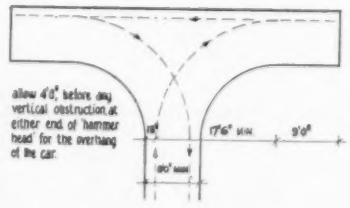
Maximum and minimum sizes of private cars



Private garage ways



Turning circles



"Hammer heads" ▶

also be provided to allow the doors to open if they are large and side-hung, opening outwards.

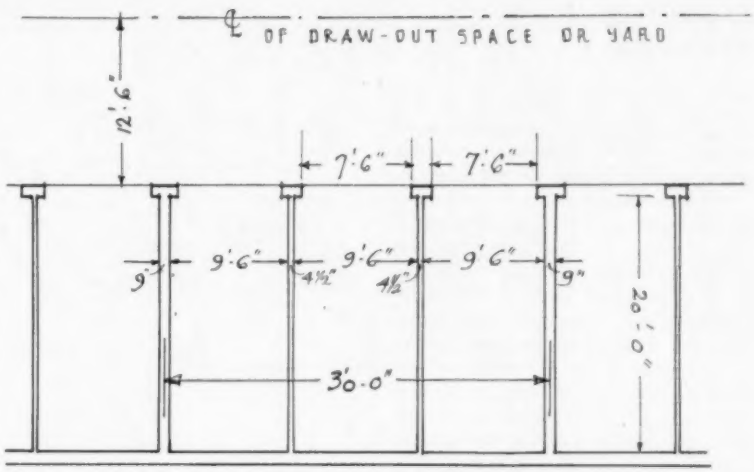
PRIVATE LOCK-UP GARAGES

In many districts where houses have insufficient space for an individual garage, some other provision has to be made in the form of grouped garages which are frequently attached to a motor business or to a petrol or service station. Blocks of flats also adopt a similar system. Whenever possible car owners prefer their own lock-up garage to a standing space in a large covered or enclosed area. Such lock-up garages should be at least 8ft wide by 20ft long, permitting space for a bench in addition to the car except with very large vehicles. The figure illustrates a typical plan which is based on building regulations requiring the maximum length of a 9-in wall to be 30ft and for intermediate cross walls to be only 4½in thick. Local authorities vary considerably in regard to the type of construction they will permit for garage buildings of this type. Some districts require each compartment to be separated by a 9in wall, others permit the scheme shown in the figure but sometimes ask for the 9in walls to be carried up above the roofs if the latter are of timber construction; other authorities permit breeze dividing partitions and some others even permit 4½ brick or concrete block walls throughout.

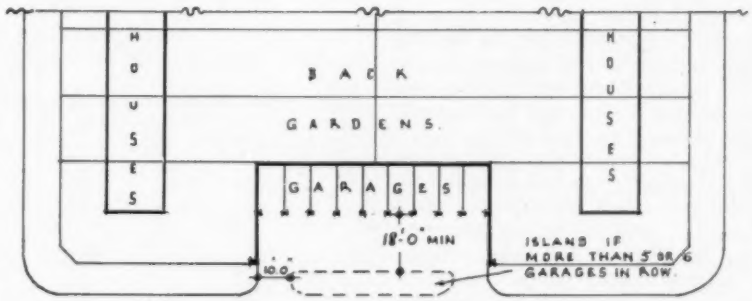
When a row of garages is constructed the turning space should be at least 20ft and preferably 25ft wide. A similar space is sufficient if garages are placed on both sides of the driveway; the whole of this space should be paved and laid to falls to act as washing space. Such ranges of garages can be lighted and ventilated through the front wall which consists mainly of the entrance doors; these doors are, therefore, sometimes glazed.

Lock-up garages should have some heating facilities for winter which can be provided by means of a radiator system operated by a small independent coke boiler placed in a heating chamber. In the case of flats, rows of garages may be heated from the general heating plant.

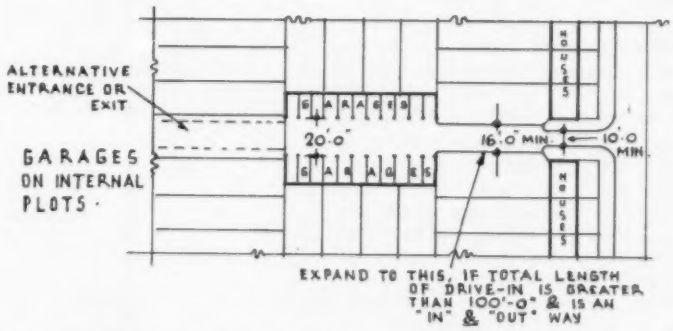
Lock-up garages attached to flats should be so placed that they are not near ground-floor windows as they are detrimental to letting values of flats. If possible the garages and washing spaces should be screened.



Preferred sizes for lock-up garages; the minimum size allowing for a bench at the end is 20' 0" × 8' 0"



Typical layout for garages on a road frontage


ALTERNATIVE ENTRANCE OR EXIT
GARAGES ON INTERNAL PLOTS
GARAGES
20'·0"
16'·0" MIN
10'·0 MIN
HOUSES
EXPAND TO THIS, IF TOTAL LENGTH OF DRIVE-IN IS GREATER THAN 100'-0" & IS AN "IN" & "OUT" WAY

Typical layout for grouped garages in residential areas, the minimum turning space of 20' 0" is shown

Planning 4
Transport

PARKING OF VEHICLES

Figure 1 illustrates three methods of parking vehicles in streets or other places against a curb or pavement.

Vehicles should never be placed in double rows on one side of a pavement owing to the difficulties involved in removing a car from the inner row before those in the other row have left. This figure also shows that the method of parking has to vary according to the width of the roadway available in order to leave a clear way at least 20ft wide, in each type, for turning and for one line of cars to pass each other in either direction. The figure also shows the number of vehicles which can be parked in each method against a given length of pavement. Type C is by far the easiest method of parking and for entering and leaving the park. Whenever possible it should be laid down that all vehicles park with the front of the cars facing in the same direction as this eases control greatly. The traffic lines of vehicles entering or leaving berths are shown on the diagrams together with suggestions as to the placing of the front of the cars; these details illustrate more clearly the problems involved in each type.

Figure 2 illustrates a typical lay-out for parking on sites where large numbers of vehicles are expected. It is usual to adopt the lay-out shown for the parking of the actual vehicles, which is similar to that shown in Type C of Figure 1, and to direct traffic so that there is continuous circulation between the car berths in one direction only. The rows of berths may be of unlimited length and when there are very large numbers of vehicles signs placed on high posts should be used so that drivers may go quickly and easily to the right section: the parking system shown permits any car to leave without moving any other vehicle. Car berths should always be assumed to need a space 7ft wide and 16ft long with driving aisles 20ft wide, or rather less if the diagonal lay-out is used as in Figure 1 C, or Figure 2. Car berths based on 16ft lengths permit the parking of the few cars which are longer than the average without disturbing the normal spacing. It should be particularly noted in Figure 2 that vehicles are not parked on the roadway on the right of the diagram because every car using the park has to use this portion of road.

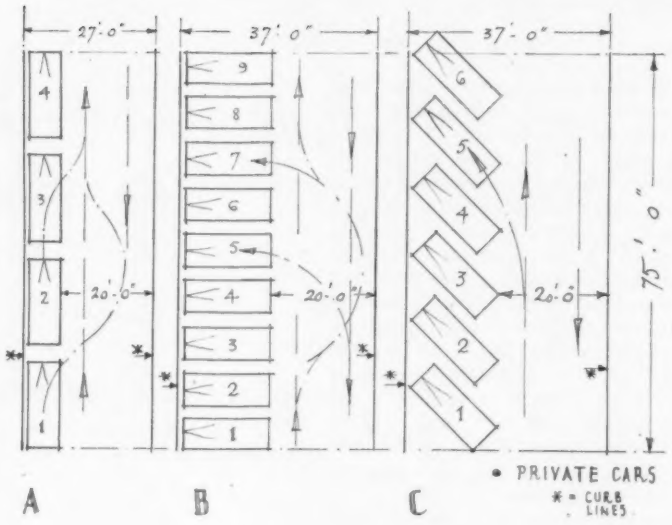


Fig. 1. A, parking parallel to the pavement, space must be left at each end of the vehicle

B, parking at right angles to the pavement, both lines of traffic are disturbed when a car is removed

C, the easiest method of parking

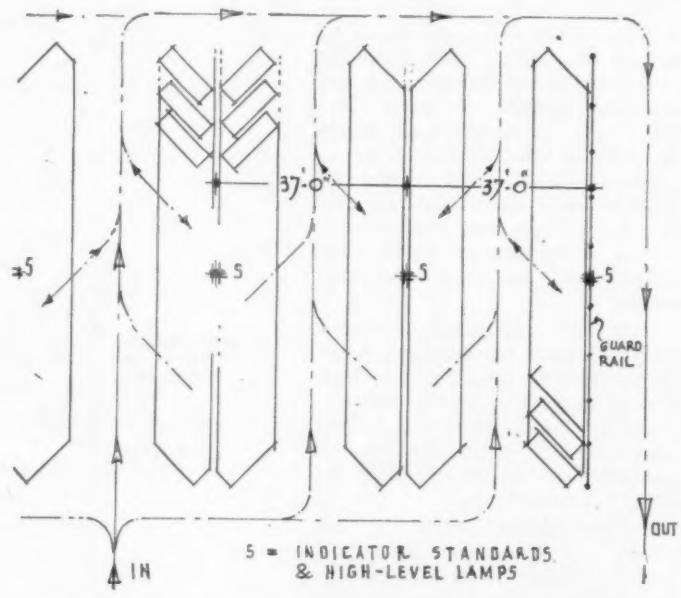


Fig. 2. Double bank parking, cars are arranged as in type C of Fig. 1

FORECOURT PARKING

Many buildings are planned with entrance forecourts which provide facilities for parking a limited number of vehicles; also in some instances there are a number of public buildings which provide in open forecourts parking facilities for ceremonial occasions when cars have to drop passengers at a main entrance and be parked by chauffeurs in such a position that they can easily return to the main door to pick up passengers.

It is essential that traffic should travel in one direction only, with the entrance to and from the adjoining street very clearly marked. Entrance gateways, if provided, should not be less than 8ft in the clear and preferably rather more with separate side gates for pedestrians. Pavement crossings should not be more than 10ft wide so that not more than one vehicle can enter at a time. The greatest problem arises in the arrangement of the parking in such a manner that any vehicle may come and go without crossing other traffic and having at the same time an easy return for picking up passengers at the entrance. Figure 1 shows three typical lay-outs, but each has the same defect, namely, traffic having to cross other traffic.

The minimum sizes of such courtyards are determined by the minimum turning radius for the largest car and, therefore, the radius of the inside curb of any part of the road should be at least 20ft. Roadways should be at least 20ft wide so that two vehicles may pass one another easily. Pavements for pedestrians are frequently not provided in schemes of this sort and consequently a general spaciousness must be provided.

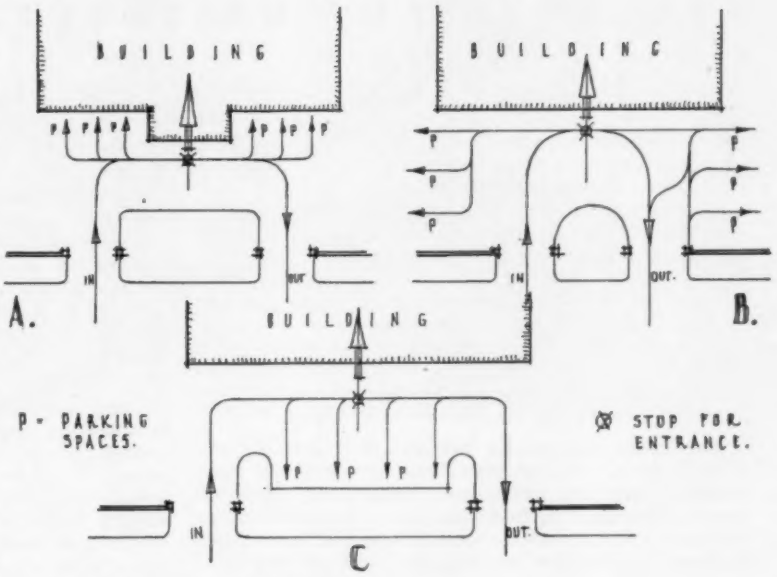


Fig. 1. Forecourt Parking

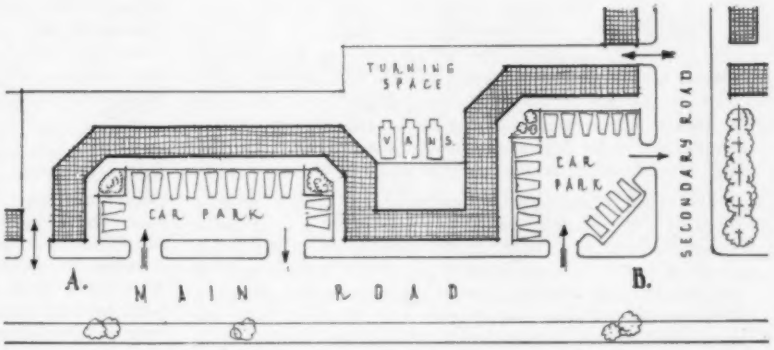


Fig. 2. Street Parking

STREET PARKING

Figure 2 shows a suggestion for car parking in shopping areas. This system avoids the interruption of the normal street traffic and also provides considerably more parking berths than can be obtained by parking against a normal straight curb. This lay-out cannot be used for urban areas where site values are very high, but is very useful for suburban districts; such a lay-out overcomes the difficulty that prevents cars from being used for shopping in many areas—congestion of street traffic. The corner treatment is not only useful in dealing with the parking problem, but owing to the opening up at the junction of the roads, traffic from the side road has better visibility of the main road.

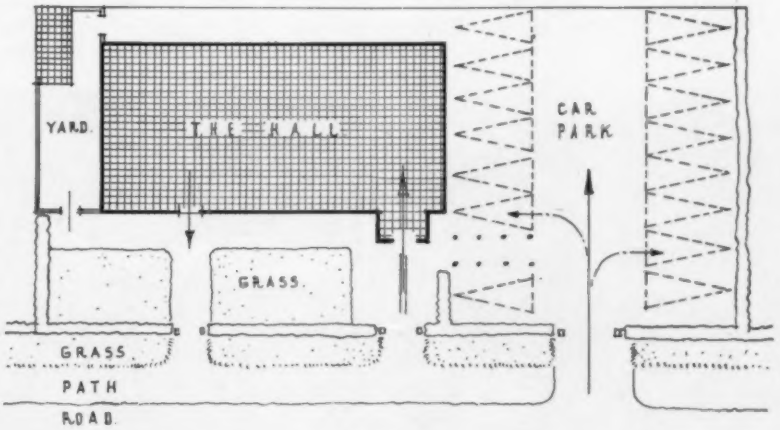


Fig. 3. Typical example of forecourt parking (Village Hall)

HOLLOW TILE CONSTRUCTION

by NORMAN C. SIDWELL, M.Sc., M.I.Struct.E., A.R.I.C.S.

THE hollow clay block has been used in patent floor construction for many years but in this country its use appears to be declining in favour of the precast reinforced concrete slab beam. On the Continent however, the hollow clay block is commonly used in floor construction together with reinforced concrete, and in Italy and Spain it would be true to say that this ubiquitous building unit is used in constructing floors in almost every type of building throughout the country. Illustration 1, for example, shows a detached house on the Adriatic coast which has floors combining clay blocks and reinforced concrete, and in addition to this the ceilings, roof and walls are constructed with hollow clay blocks.

The Italian and Spanish builders are remarkably versatile in the use of these blocks and have developed many novel forms of site prefabricated beams incorporating the blocks. The usual method is to place a number of blocks end to end to make up the required length of beam. This is done on a prepared base and the blocks are thoroughly wetted and reinforcing rod laid along the channels formed at the sides of the blocks. Illustration 2 shows a stack of Italian hollow clay blocks which have these channels specially formed during extrusion.

A third channel is seen in the top of the blocks and it is usual to place reinforcing rod here also. The building operative then points a fillet of strongly gauged cement-mortar over the reinforcement so that it is welded, as it were, to the side of the block. Immediately the first beam is formed, a second beam is similarly cast and is supported on the first beam with a separating layer of sand, preventing any adhesion between the beams.

The next photograph, Illustration 3, shows how a stack of a dozen or so beams is made up in a continuous operation and on a very limited area of site. When the stack of beams is completed it is left for a minimum of ten days for the cement-mortar to harden off thoroughly. The beams are then ready for use. Usually they are employed in floor construction in much the same way as prefabricated slab beams of reinforced concrete are used in this country. The saving in removing the necessity for close-boarded shuttering must be quite a consideration on a large project, for the only support necessary is provided by one or two props in mid-span, according to the length of the beams.

When the prefabricated "black/beams" are placed in their final position in the floor, the projecting channels housing the reinforcement at the sides of the blocks serve to space out the main body of the beam so that between the beams there is a 3in channel in which more reinforcement may be laid before the entire floor is flushed and covered with fine concrete in the same way that the patent hollow clay block floors have usually been constructed in this country.

These prefabricated beams are also used for ceiling construction on upper floors where the attic space is not intended to be used. In such instances the beams are simply placed alongside each other so that they present a flush surface on the underside for plastering and the top surface is flushed up with fine concrete. Quite often a deeper clay block is made up into a prefabricated beam in the same way and is used as a ceiling joist at about a three feet spacing. A layer of special clay blocks, three feet in length, is placed betwen the flanges of the ceiling beams, the blocks being rebated so as to notch on to the flanges and thus present a level soffit for plastering. This form of ceiling construction is quite common in detached houses on the Adriatic coast of Italy, some of the prefabricated "block beams" are made to span 18ft or more and from a personal inspection they appear to be quite strong and adequate for their particular purpose.

Illustration 4 shows more of these beams in the process of prefabrication in a builder's yard near Venice. In this instance the beams are being made to form cambered roof members. They are to be used in roofs on agricultural buildings, garages, etc. The method of construction is quite simple, the beams are placed side by side and then concreted over in the same manner as the floor beams. The protruding ends of the reinforcement are carefully tied into *in situ* concrete wallplates and then the roof surface is covered with interlocking clay tiles.

From this description of the site prefabrication of these "block/beams" it will have been evident that the work involved is extremely simple so that a stack of beams, Illustration 5, can be made up in a matter of a few hours.

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The whole operation can be undertaken by a semi-skilled man who simply lines the blocks up, wets them, places the reinforcement and then points a rough cement mortar fillet over it.

The very simplicity of this sequence of operations must make the manufacture of these beams an attractive proposition to the small contractor, for he has no expensive factory to equip or machinery to buy. All he requires is a flat piece of ground on the site or he can, if he wishes, build a rough shelter on the site so that the beams may be prefabricated during wet weather.

Structural engineers in this country would probably look askance at what seems to be a rather crude site method of making a structural unit destined for a loadbearing function in a building. Indeed, it does seem hard to believe that two or three pieces of wire stuck against a row of hollow blocks with a light band of cement-mortar can produce a rigid, dependable beam that will stand up to rough site handling and then effectively fulfill the function of *in situ* shuttering, ceiling beams, etc. This is so, however, and the Italian and Spanish builders see nothing strange or incredulous about this technique of prefabrication which is serving them so well.

It is my opinion that our own manufacturers of hollow clay blocks might try some experimentation on these lines if, in fact, they have not already done so. At the moment of writing there is one prestressing specialist firm in this country which is producing a prestressed concrete beam cored with hollow clay (and concrete) blocks—but these are factory made and very expensive. The standard clay block as made at the present time is not suitable for the site technique as described and the manufacturers would need to extrude a section more in line with that illustrated in these photographs. All that can be done with the present form of block is the kind of thing shown in the photograph, Illustration 6, where reinforcing rods are placed inside certain of the voids in the block and then the voids are filled with fine concrete. The method of casting beams in this manner is seen in the background of the photograph, where blocks making up a number of beams are stacked vertically against the wall and stayed temporarily while the reinforcement and concrete are inserted.

The writer recently carried out certain experimental work in connection with this technique of prefabricating floor beams by reinforcing butt-jointed hollow blocks, and the following account of the results gained from this laboratory work has confirmed my view that there is scope for the further development of this type of floor construction in this country.

It was not possible to find a suitable hollow clay block for this full-scale experimental work. The ideal block should have recesses formed in it to accommodate the reinforcement (this type of block is clearly shown in Illustration 7, shown below, of a stack of beams on a site at Barcelona). Alternatively there may be sideflanges formed in the block as shown in the earlier photographs. These side flanges are usually keyed or undercut to prevent the reinforcement and the containing cement from leaving the flange.

Continued overleaf

The author of this article, Mr. N. C. Sidwell, is Head of the Department of Building, at the Heriot-Watt College, Edinburgh

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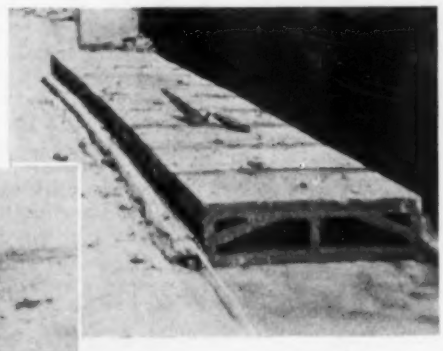

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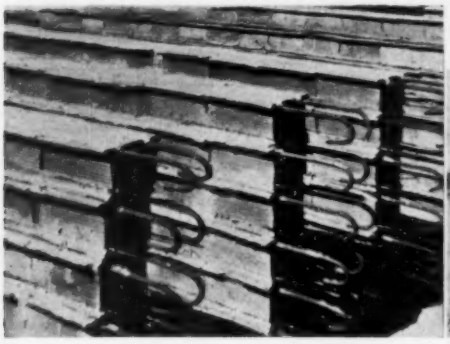

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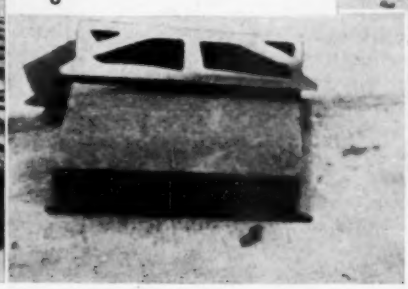

Hollow Tile Construction

The blocks that were eventually selected for the experiments were obtained from the manufacturers of patent composite flooring and the section of one of these blocks is clearly seen in the uptilted block in Illustration 8. These blocks were chosen because they had some sort of side flange on which to bed the reinforcing rod, Illustration 9. But there were no undercut recesses to assist the bonding of the reinformement to the blocks; for the want of a better section this type of block was used. Another more serious disadvantage inherent in this material was its weight, for the blocks were made of a dense concrete and were much heavier than the hollow clay blocks. Each of the concrete blocks weighed 33lb and measured 18in over flanges, 9in in width and 4½in deep.

The initial beam was made up from ten blocks, cross-jointed in a mixture of Ciment Fondu and sand, 1:1. The mild steel reinforcement was 3/16in diameter smooth wire and was bedded on to the flanges in material similar to that used for the cross-joint between the blocks.

The beam was quickly made up. First the blocks were spaced out correctly and thoroughly wetted. Then the cement-mortar cross-jointing process was carefully carried out and the reinforcement pressed into a bed of soft mortar pointed on to the flange (this stage is shown in the preceding photograph). After this the reinforcement was completely surrounded by pointing more cement-mortar around it and consolidating the whole joint with a firm pressure from the trowel.

After curing for three days a loading test was made and the beam withstood a uniformly distributed load of 862lb over a clear span of 6ft 1in before the failure of the bond strength of the reinforcement. Illustration 10 here shows the beam after failure and in the "close-up" (illustration 11) it can be seen that the reinforcement is still intact and has simply drawn through the enclosing cement-mortar fillet. Deflections were measured during the test and were not excessive.

A second beam was then made up, this time fourteen blocks were used and the reinforcement was of the "square grip" section, 3/16in thick. The loading was again applied uniformly over the beam which was supported over a clear span of 8ft 6in.

Failure took place immediately after the load was increased to 1,500lb and was due to typical fracture of the reinforcement after slight elongation.

In these two tests the self weight of the first beam was 330lb and the second beam weighed 462lb. These figures demonstrate the unsuitability of concrete blocks, for if hollow clay blocks had been used the beams would have been little more than half the weights of the actual specimens tested. Apart from the undesirability of such excessive self weights in reducing the possible applied loads there is the difficulty of placing such heavy beams in their final position. It is important that these prefabricated beams should be easily handled on the site by two men only, for anything in excess of this is usually disproportionately costly. In Spain and Italy it is quite common to see two men handling these beams in lengths up to 14ft or so and hauling them to first floor level with ropes. On higher levels than this the beams usually travel up on a platform hoist or are hoisted by a crane.

It would be unwise to draw any final conclusions from these initial tests, for they have been only exploratory and by no means exhaustive. However it does seem that the results which have been produced so far are sufficiently encouraging to warrant further experiment. If such unsuitable concrete blocks as were used in these first trials can be made up into reinforced beams that will sustain 100 to 120lb per ft super then it is fairly certain that deeper and lighter beams would safely withstand a greater range of loadings.

The advantages of these prefabricated block beams can be summed up as follows:

(1) The beams are quite easily made up on the site by relatively unskilled labour.

(2) Any reasonable length of beam may be made, simply by varying the number of blocks used.

(3) Shuttering is unnecessary, though a single support under the centres of beams may be temporarily necessary while concreting operations are carried on.

(4) The beams may be used in suspended floors, roofs and ceilings. In floors or roofs taking normal loadings it is essential that the beams are regarded merely as fulfilling the function of built-in shuttering for the *in situ* concrete topping and separating rubs, adequately reinforced. In ceilings meant to support only their own weight or in certain floor or roof construction it may not be necessary for concrete and additional reinforcement in the spaces between the sides of the flanged beams, in which case a levelling fill of cement-mortar or fine concrete may be all that is required.

(5) A substantial saving in cost should result from the removal of the necessity for shuttering.

(6) The site prefabrication of the beams can be carried on by the contractor during bad weather when workmen are unable to work outdoors.

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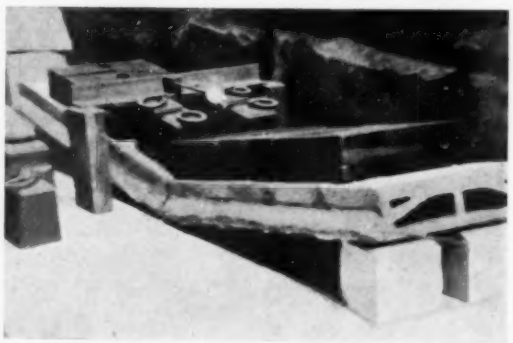

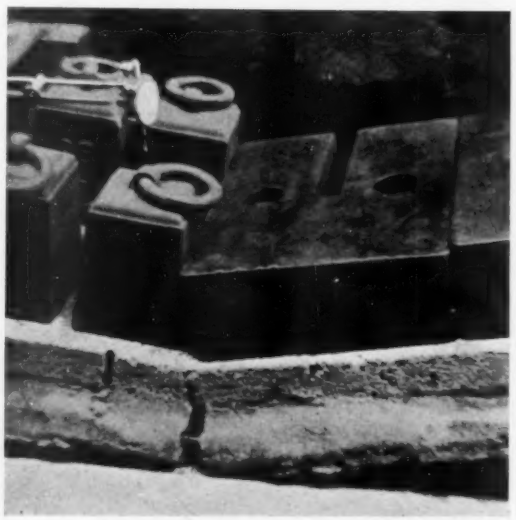

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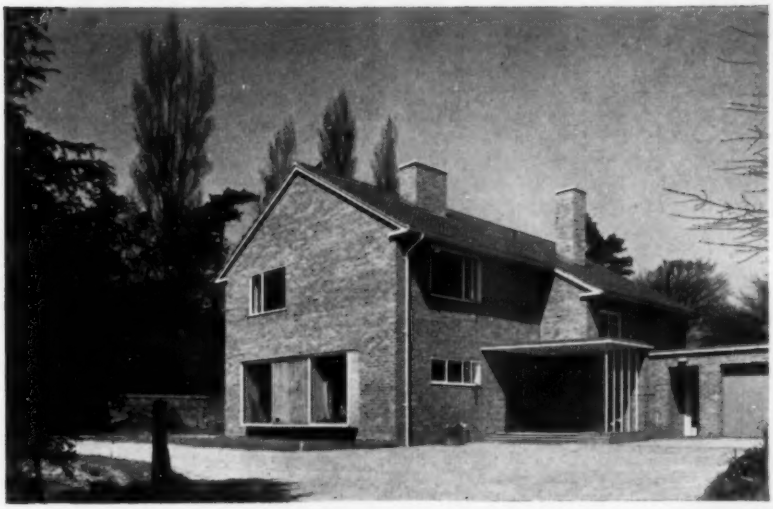

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Fibre Building Board

FIBRE building board, often known as wallboard, has in recent years become a very important material in the building industry, and also in many other spheres. Its production and use in many parts of the world has not only had an enormous growth but its use appears to be extending continually.

A report, The Fibre Board Industry in Europe, published by O.E.E.C. at Paris (copies from H.M.S.O., price 9s, by post 9s 3d), sets out the results of a Working Party of experts drawn from the chief O.E.E.C. countries concerned with fibre building board and makes very interesting reading. The report, however, does not list the names or the countries from which these experts were drawn. There have been good studies of the subject on a national scale and the F.A.O. has considered the subject on a world scale, but this report is a survey with a definite European slant. The object of the report was to consider the main problem of the industry from a European angle.

The report is concerned with the interdependence of the various national markets and the effects of liberal or restrictive trade policy. The Working Party appears to have found it necessary to adopt definitions and terminology having the highest possible degree of precision to avoid confusion between the types of building board in the different markets and consequently the introduction to the report sets out, in seven languages, the standard translations of the names of the products covered.

Definitions and Production

The first section of the report defines fibre building board, of which there are two categories of products —hardboard and insulating board— both of which have a similar manufacturing technique up to the stage of the wet sheet, after which the operations differ. The processes are clearly shown in a diagram.

Fibreboard is used in its natural state but both types sometimes undergo further processing. The uses of fibre building board, whilst originally exclusively applied in the building industry, have now extended very widely into other industries; one firm has prepared a list of not less than 320 different uses to which its material is put. The report itself sets out a wide range of uses of both traditional types of board and of special types. The structure of the industry is possibly little known or appreciated by the bulk of users of the material. The first fibre building board plant was set up in the United Kingdom in 1898 but the industry did not extend in earnest until about 1914 when it was realized in the U.S.A. that wood waste could be profitably employed. The number of production plants in the O.E.E.C. countries is 52, of which three are in the United Kingdom, 17 in Sweden, eight in Germany, five each in France and Norway. The raw material is mainly wood but some straw, and in the United Kingdom some bagasse is mixed with the wood fibre.

Between 1950 and 1955 total production capacity in Western Europe rose from 913,000 tons to 1,212,000 tons, an increase of 33 per cent, which represents approximately one-third of the world capacity. The production capacity of hardboard has risen by some 53 per cent in the same period but the capacity of insulating board fell by 3 per cent. The total world production of fibre building board in 1954 was 3,004,000 metric tons, of which slightly more hardboard than insulating board was made. By far the biggest producer in Europe is Sweden, which produces a total of 400,000 tons of building board, while the United Kingdom produces rather more than 50,000 tons and is now sixth in the Western Europe countries, including Finland. As far as imports of fibre building board are concerned the major import in Western Europe is that of the United Kingdom purchases from Canada.

Consumption

The report includes a table showing the *per capita* consumption of fibre board in 1950 and 1955 in the various European countries. The largest consumer is Sweden with 20 kilogrammes per person followed by Norway with 18·6. The United Kingdom figures are 2·4 kilogrammes per head in 1950 which has risen to 4·2 in 1955. The smallest consumer is Italy.

Among the conclusions of the Working Party is that differences in conditions of supply and production must not induce the fibre building board industry to reject the principle of gradual but complete abolition of quotas and all administrative obstacles to trade and discriminatory technical regulations. It suggested that the great difference in *per capita* consumption, while partly due to very climatic conditions and national building methods, are principally on account of legal regulations covering the use of fibre building board which are in some cases discriminatory. To avoid fibre building board being more severely hit than other similar materials, the Working Party recommends that the industry should undertake a technical study on this subject on an international scale. Being aware of the importance of standardization in the development of any industrial sector, the Working Party hopes that the work of the International Organization for Standardization in the matter of fibre building board will be actively pursued.

The report concludes with an Annexe giving explanatory notes concerning the Brussels Nomenclature of the Customs Co-operation Council, and finally some illustrations of a few ways in which fibre building boards are used, including the internal lining of a cowshed to combat humidity and temperature and the external facing of a house in Sweden, showing the external walls lined with oil-painted hardboard. The report should be of very considerable value to all those who are concerned with the use and development of this new, very important material.

Comment

The conclusions leave an impression that the experts who formed the Working Party were probably persons very closely associated with endeavours to increase the sales of fibre building board and consequently were not willing to disclose the reasons why there exist in some countries legal regulations covering the use of this material which cause these countries to be discriminatory in their use. There is no doubt that the building industry in this country might make greater use of fibre building boards if it were not for the fact that there is a very large production of gypsum plasterboard which has a much higher degree of fire resistance except perhaps when fibreboard complies with Class 1A of B.S.1142 which describes the highest quality of flame-retardant fibreboards. This country, no doubt very rightly, has in recent years become very aware of the need to take adequate precautions in its buildings against fire as is well illustrated in the last edition of the Ministry of Housing and Local Government Model Building Bylaws.

It should also be borne in mind that gypsum plasterboard is made from native material whereas most fibre building board is either imported from other countries or is made in this country largely from imported raw material. For insulation purposes, especially in relation to sound, fibreboard is a very valuable material and as a constructional material hard-

Industrial Notes

● The North Thames, South Eastern, Southern and Eastern Area Gas Boards are between them organizing the "Gas at Work in Industry" Exhibition which is to be held at the Royal Horticultural Hall in London from January 22 to February 2, 1957. Over 70 manufacturers are combining to exhibit products ranging from gas fired water and space heaters to electronically controlled equipment for shell moulding, tool cutting and flame hardening.

● Growing demand for high purity graphite for the atomic reactors of Britain's nuclear power programme has led to the formation of a £6 million Anglo-American graphite project. In collaboration with great Lakes Carbon Corpn. of New York, four British companies are forming a British company, Anglo Great Lakes Corporation. The four companies are C. A. Parsons & Co., A. Reyrolle & Co., Sir Robert McAlpine & Sons, and Clarke, Chapman & Co. Construction is expected to start early next year of a Tyneside factory to produce the nuclear quality graphite.

● British Industrial Callender's Cables Ltd. announce that their Tunbridge Wells office has been transferred to Water Lane, Maidstone, Kent—telephone: Maidstone 51113-4. The telephone number of their Swansea office has been changed to Swansea 52094.

● Associated British Engineering report trading profits of £250,000 for the half year ended October 13. This is about 3 per cent less than for the corresponding period of last year, but the interim dividend is maintained at 4 per cent.

● Redfearn Bros. Ltd., manufacturers of glass containers show a profit, after deduction of tax, for the year ended September 30, of £196,749. This represents a decrease of £72,415 on the results of the previous twelve months. Nevertheless the dividend is increased by 5 per cent to 25 per cent for the year with a final of 20 per cent.

● Turner & Newall Ltd. are paying a final dividend of 22½ per cent for the year ended September 30. Consolidated net profit of the group rose from £12,494,817 to £13,343,819.

● Sir Lindsay Parkinson & Co. Ltd. are paying a final dividend for 1955 of 6½ per cent less tax, making the total for the year 9 per cent less tax. Profits at £93,580, after taxation, are £18,662 up on the results of 1954.

● Henry Hope & Sons Ltd., of Smethwick, announce that Mr. D. A. Wainwright has been appointed manager of their new branch office at Brighton. Address: Messrs. J. J. Saunders & Sons Ltd., 5 Grand Parade, Brighton. Tel. Brighton 61681.

● Mr. S. R. Eade, joint managing director of A.E.I. Lamps & Lighting Co. Ltd., has been appointed managing director and Mr. J. Clement has been appointed sales director. Mr. V. C. H. Creer is no longer joint managing director of the company.

ADDENDUM

To the list of sub-contractors for the Calder Hall Power Station, which appeared on page 517 of A. & B.N., October 18, should be added W. & J. Leigh Ltd., who supplied paint for both internal and external use.

CORRECTION

In the text of New Products, page 731, A. & B.N., November 29, the Merton convector fire should be Fig. 5, and the Empress Mark II convector should be Fig. 4 and not vice versa as was stated.

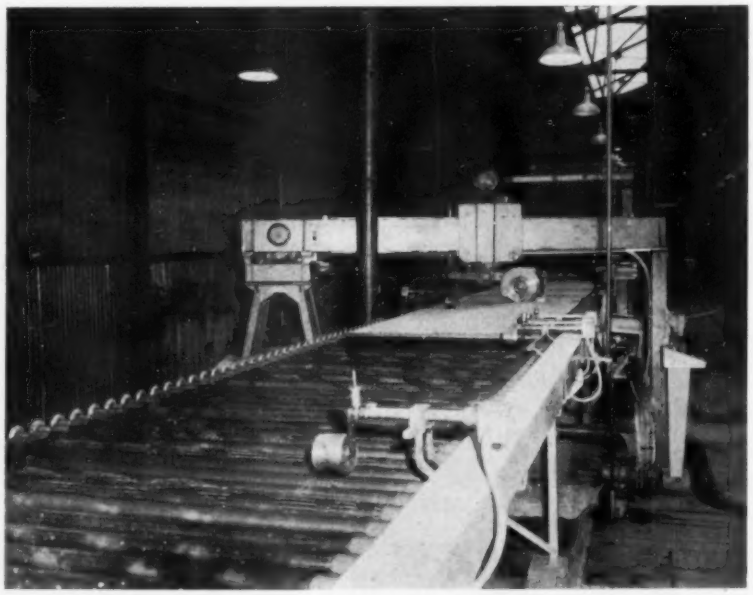
Continued from page 801

board has innumerable uses and could be applied much more widely than it is today.

It is always important to choose the right type of material for each application and consequently there are these positions in which plasterboard and other sheet materials are preferable to fibreboard and vice versa.

It is certainly true that there is considerable confusion, in the building industry in particular, between the descriptions used for the many types of fibre building board and in fact quite often proprietary names are used rather indiscriminately in addition to type names. While the type definitions given in B.S.1142 have gradually tended to be generally accepted there still seem to be suppliers using variants; it now appears necessary for this B.S. to be further revised to take account of the full range of types given in the O.E.E.C. Report. If there are to be I.S.O. discussions, as forecast in the report, it seems that it would be desirable to bring the B.S. as nearly as possible up to date so that the United Kingdom can table its national standard as a contribution to international agreement. The B.S. should also include acoustic types of insulating board together with the necessary absorption requirements, as these do not yet appear in it. It might also be desirable for the B.S. to cover hardboard faced with plastic sheet and the "decorated hardboards" so that the quality of both the base and the finishing surfaces have minimum prescribed requirements.

DUTCH UNCLE



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NEW PRODUCTS

In this feature are reviewed new lines introduced to the building industry for the first time and additions or improvements to existing ones. Any advantages claimed for a product are from information supplied by the manufacturer

A new Alkalite Polythene coupling, Fig. 1, has been marketed to make possible an all-polythene plumbing system without special tube manipulation. The tube and coupling are joined together electrically in the following manner: Each socket of the coupling has two metallic rings of resistance strip which form a small heating element. Two leads from this element project from the end of the coupling to form electrical connectors. The tube is fitted into the sockets and current supplied through the connectors from a battery for a controlled length of time (normally 15-30 secs). This heats both fitting and tube around the heating element and welds them together in one piece. The five standard couplings, straight coupling (101N), elbow (102N), tee (103N), reducer (104N) and adaptor (alkathene/metal 105N), are marketed in ½in, ¾in and 1in range and have been accepted by the British Waterworks Authority for use with Polythene tubing to BS.1972: 1953.

Imperial Chemical Industries Ltd., Metals Division. P.O. Box 216, *Kynoch Works, Witton, Birmingham, 6. Birchfields* 4848.

★

The new Tilley floodlight, Fig. 2, has been designed for use on Bottogas propane or butane and is rated to produce 10,000 mean reflected candle power. It is of sturdy construction, being recommended by makers for use on building sites, and a tripod stand with telescopic legs is also available. In addition the Tilley Sitelight is a new portable hurricane lamp with 300-candle power beam.

Bottogas Ltd., Cecil Chambers, 76-86 *Strand, London, W.C.2. Covent Garden* 2511.

★

The new Rapier 5T mixer, Fig. 3, has a capacity of 7/5 cu ft and is the smallest of its range of tilting drum mixers. Drive is a 3½h.p. petrol or diesel engine enclosed in a steel house. Mixing is by bucket and shovel blades which is claimed to be as efficient as by non-tilt mixer. Skip shaker gear to assist discharge can be provided. The skip is low and its control lever is ratcheted so that holding is not necessary during hoisting. Pneumatic tyred road wheels are available.

Ransomes & Rapier Ltd., Waterside Works, Ipswich, Suffolk. Ipswich 2143.

★

A new tile pattern design of Neocast moulded hardboard is now available which has been produced as a low-priced alternative to ceramic tiles. It may be finished either with high gloss enamel, paint, normal varnish and cellulose, or natural clear polish. It can be worked with ordinary carpenters' tools, fixed by normal woodworking methods and adapted to curvatures as easily as to flat surfaces.

J. Eidelman, 28 *Bishopsgate, London, E.C.2. London Wall* 6656.

★

A new addition to this company's range is Silicone Water Repellent which has been produced for application on plaster, concrete, brickwork, pre-cast stone, soft-board and other paper based materials. Makers state that it acts not as a sealer but by surface tension, repelling the entry of water but still allowing masonry to dry out. Thus it may be applied to damp surfaces. It is colourless and non-film forming and is claimed to be dirt repellent, to withstand heavy rain, to retard efflorescence and to be non-toxic and non-inflammable. Covering capacity is stated to be 25/40 sq yds per gallon.

Hangers Paints Ltd., Stoneferry Works, Hull. Hull 42111.

★

The Bayonet Instant Hose Tap Coupling is claimed to provide a leak proof connection between hose and tap. Basically the upper portion of the coupling is fixed permanently to the tap and the lower portion to the hose. The two are coupled together in the same manner as a bayonet electric light bulb to its socket. Models are available to fit all sizes of threaded, threadless and oval taps up to standard ¾in and tailpieces are in two sizes for ½in or ¾in hose. Hose to hose couplings are also available, using the same principle.

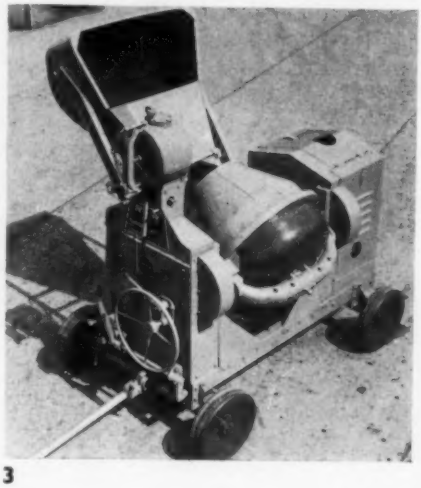
Distributed by Chase Protected Cultivation Ltd., Cloche House, Govett Avenue, Shepperton, Middx.

★

New designs as well as ranges of plain colours are announced for both grades of Rydura cotton fabric. The additions to the standard quality, which is used for wall and furniture coverings, both bonded to board and in direct application, are "Mayline", "Clymane" and "Kindling". The first of these features a bold chalk stripe alternating with a broken white stripe on brilliantly coloured grounds, the second combines a sharp clear colour with grey and white in close stripe arrangement and "Kindling" is a novelty abstract with delicately drawn motif in white on bold colours. Three new designs are also available for the heavier quality used primarily for

1

2



3

New Products

upholstery, "Vuletta", "Oregon" and "Symbro". In the first, dark grey stripes alternate with bands of irregular white dots on coloured grounds; the second is a geometric abstract in black and white on richly coloured grounds and "Symbro" features an heraldic lily motif on carmine, mustard, blue, green or charcoal.

Ryjack Productions Ltd., 89 Oxford Street, Manchester, 1.

★

This firm has introduced a new series of decorated plastic door furniture. An ivy-leaf design in rich brown appears on an ivory background and is protected by a layer of melamine which is an integral part of the moulding. A mortise set is available, either drilled through, Fig. 4, or with floating spindle. Finger plates are in two sizes, 8in by 2¾in and 10in by 2¾in.

Lacrinoid Products Ltd., Gidea Park, Essex. Hornchurch 2981

★

The new Airdale convector fire with restricted throat, Fig. 5, has been designed for use with any solid fuel. In addition to the heat circulated from the convector chamber, the restrictor/reflector reduces the amount of air going up the chimney and increases the amount of radiant heat going into the room. Makers claim that the fire will heat a room 3,300 cu ft and 2,500 cu ft respectively in post-war and pre-war houses. It is suitable for 16in or 18in fireplaces from 20in to 24in high. Finished in black, cream and light or dark fawn vitreous enamel and copper, pewter or old silver lustre.

Richard Baxendale & Sons Ltd., Albert Street Foundry, Chorley, Lancs. Chorley 2808.

★

The new Redfyre Industrial space heater, Fig. 6, is designed primarily for burning domestic diesel oil. It incorporates a heat regulating knob and thermostatic control can be fitted. Performance figures claimed by makers are: Output, maximum 45,000 B.Th.U/hr, minimum 12,000 B.Th.U/hr; consumption, max. 2·6 pts/hr, min 0·7 pts/hr. Overall dimensions are 30½in H by 30in W by 22in D, and the appliance is made from cast-iron and mild steel and is finished in grey stove enamel.

Newton, Chambers & Co. Ltd, Light Castings Dept., Thorncliffe, Sheffield. Ecclesfield 3171.

★

Guards are now available for Nightstor 1½ and 2¼kw heaters. The top guard, Fig. 7, made from perforated sheet steel has two alternative fixing positions. The first for use when the heater is against wall or furniture and the second when the heater is free standing. It is fixed by a simple clip-on arrangement and is so designed that in either position it is not possible to place anything on the heater itself. The guard measures 30in by 15in by 5in deep. A wall-fixing wire guard surround is also available.

General Electric Co. Ltd., Magnet House, Kingsway, London, W.C.2. Temple Bar 8000

★

Penetrex Coloured is a silicone water repellent for the treatment of asbestos cement sheets and rainwater goods, asbestos insulation boards, porous cement renderings, concrete and cement painted surfaces. It is claimed that it cannot chip, crack or flake off and retains the water repellent properties of Penetrex 53. It may be applied by brush or spray and coverage varies from 500 to 700 sq ft per gallon. Eleven colour finishes are available.

F. A. Winterburn Ltd., Holborn Street, Leeds, 6. Leeds 25692.

★

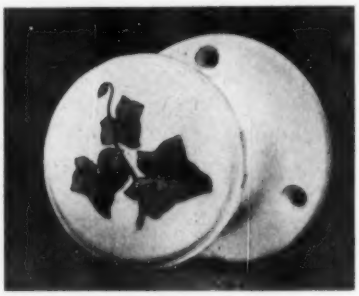
Glocrete SR. is a synthetic rubber floor paint for concrete floors. It can also be applied to cement, wood, brick, tiles, linoleum, hardboard, asbestos, magnesite, latex, bitumen, asphalt, tarmac, mastic or old paint and is claimed to give a non-skid surface. It may be applied by brushing or spraying and is stated to dry in 30 minutes and to permit the pasage of light traffic in 10 hours. Coverage of 300 sq ft to the gallon may be obtained on smooth concrete and the flash point is quoted as 110 deg F. It is claimed to be resistant to fresh and salt water, acids, alkalis, solvents, mineral and vegetable oils and petrol and diesel oils, etc. It is available in ten colours and white and dries to a semi-gloss finish which may be cleaned and scrubbed in the usual way with detergents.

Corrosion Ltd., Malvern Road, Southampton, Hants. Southampton 71347.

★

Romanite W.R. is a silicone-resin solution for repelling water. It may be applied by brush or spray to brickwork, stone, concrete, cement, asbestos cement, and mortar. It is a colourless solution which permits painting after application. Claimed to be non-corrosive and to possess the quality of penetrating to a depth of up to ¼in according to the porosity of the material being treated. This latter factor also governs the covering capacity which varies between 100 and 250 sq ft per gallon.

Andrew Maxwell (The Liverpool Borax Co. Ltd.) St. Paul's Square, Liverpool, 3. Central 1783.



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7

NEW EXTENSIONS FOR KAY & COMPANY LTD · WORCESTER

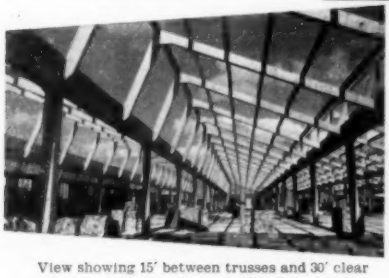
8,000 Marlith Wood Wool Slabs

COVERING A FACTORY AREA OF 82,000 SQUARE FEET

Architect:
G. R. Acton, L.R.I.B.A., A.I.A.A.

General Contractor:
Spicers (Builders) Ltd., Worcester

Structural Framework:
R. E. Eagan Ltd., London, S.W.1



View showing 15' between trusses and 30' clear spans ready for steel tees for Marlith slabs.

Shows Marlith slabs in position and painted with plastic emulsion paint on special textured finish.

View overall facing East showing final covering of russet-brown corrugated asbestos sheeting.

MARLITH WOOD WOOL SLABS

- for light weight yet great strength
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MM5

G

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They provide an excellent non-slip surface, handsome in appearance and extremely long wearing.

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SILICON CARBIDE NON-SLIP GRAINS for a hard, sharp surface.

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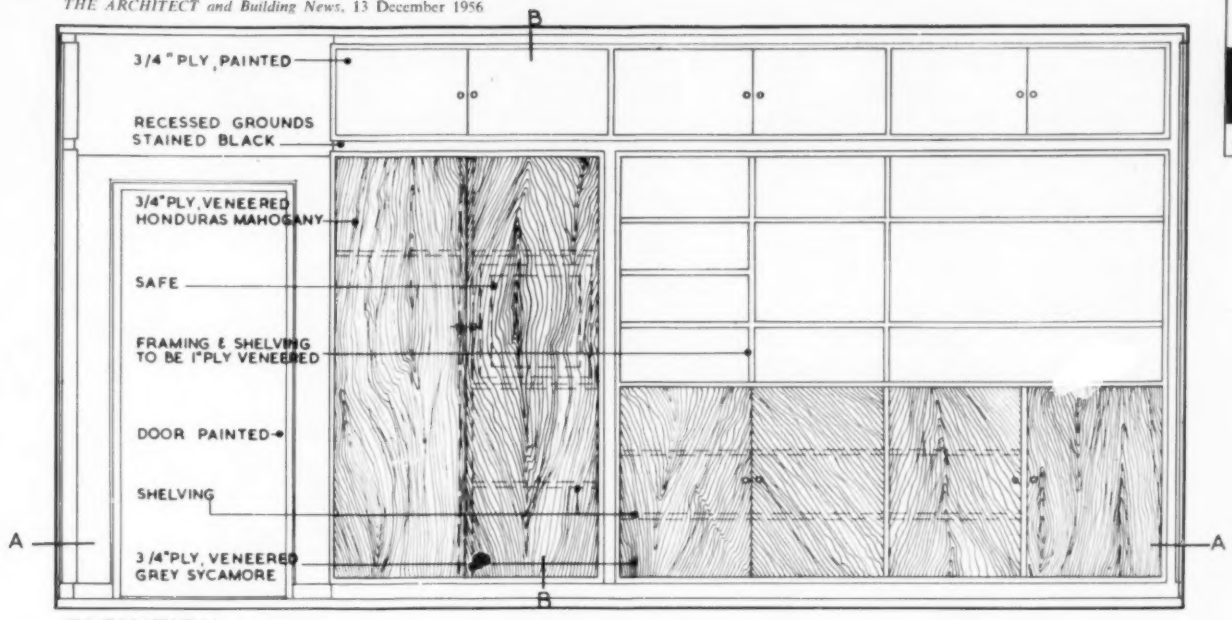
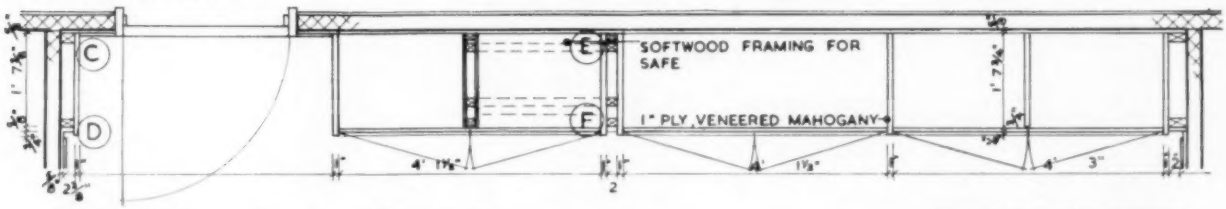
Non-slip grains made by CARBORUNDUM *provide extra safety in the surfaces laid by A. Quiligotti & Co. Ltd. on the busy stairways at London Airport Headquarters*

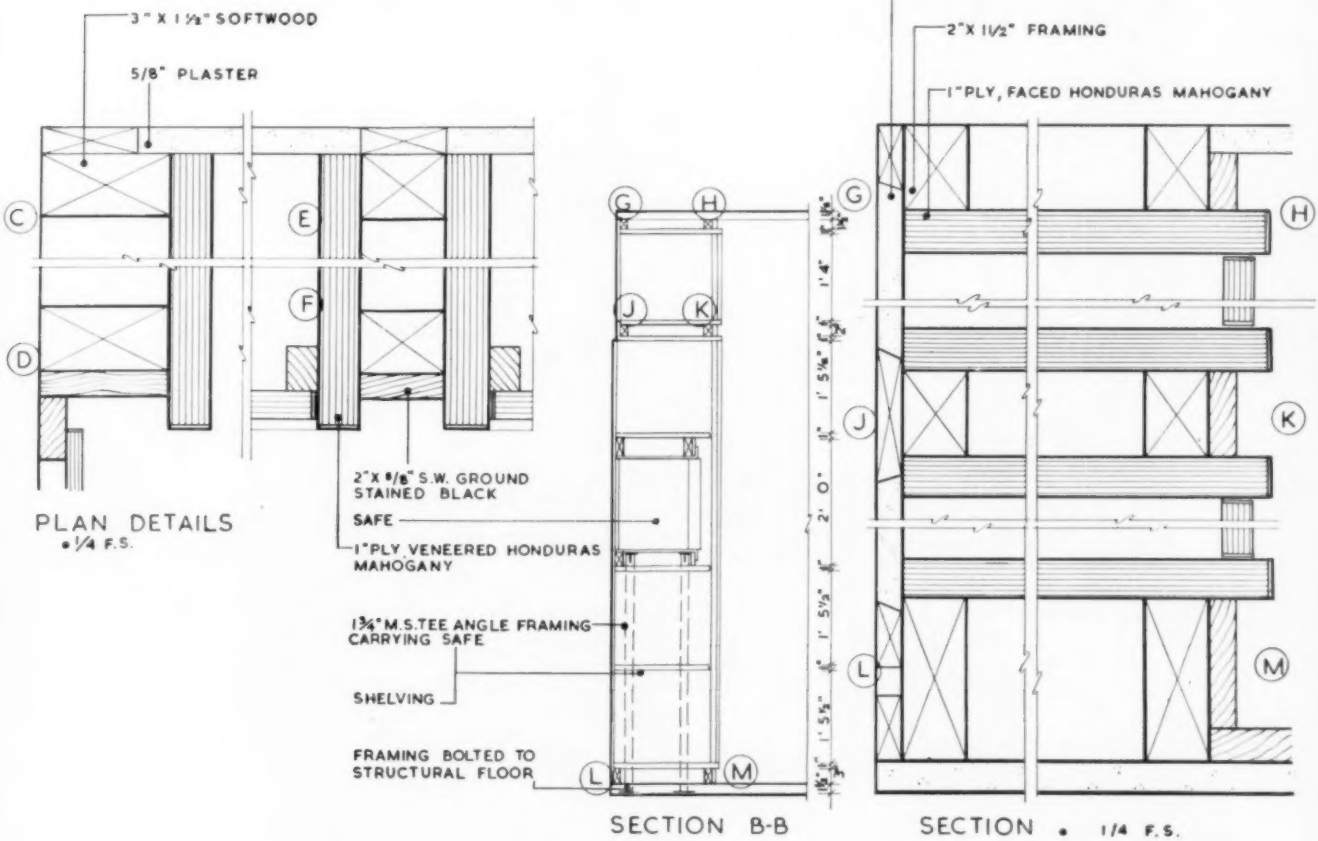
THE CARBORUNDUM COMPANY LIMITED, TRAFFORD PARK, MANCHESTER 17. PHONE: TRAFFORD PARK 2381



ELEVATION



PLAN ON A-A • 3/8" - 1' 0"



PLAN DETAILS • 1/4 F.S.

SECTION B-B

SECTION • 1/4 F.S.

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CUPBOARD FITTING, OFFICES, ALBERT EMBANKMENT, LONDON

ARCHITECT: FREDERICK GIBBERD

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CONTRACT • NEWS •

*Notes below give basic data of contracts open under locality and authority which are in a bold type. References indicate : (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date of application, (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

OPEN

BUILDING

BIRMINGHAM C.C. (a) Alterations and extensions to cottages 9 and 10 at Shenley Fields Cottage Homes, Shenley Lane, Northfield. (b) City Architect, Civic Centre, Birmingham, 1. (c) 2gns. (d) December 17. (e) January 30.

* * *

BRIERLEY HILL U.C. (a) 46 houses at Orchard Street site, Scheme B. (b) Council's Architect, Civic Buildings, Brierley Hill. (c) 2gns, payable to Council. (d) December 15.

* * *

DAGENHAM B.C. (a) Works necessary to complete the erection of 52 flats and 22 garages (approx. two-thirds of the contract), after the determination of the former contract, off Mill Lane, Chadwell Heath. (b) Borough Engineer, Civic Centre. (c) 2gns. (e) December 21.

* * *

DEVON C.C. (a) 2 pairs of houses for police constables at Watcombe, Torquay. (b) County Architect, 97 Heavitree Road, Exeter. (c) 2gns by cheque, payable to Council.

* * *

DEVON C.C. (a) Erection of single police houses at Okehampton, Thurlestone. (b) County Architect, 97 Heavitree Road, Exeter.

* * *

DEVON C.C. (a) 2 pairs of police houses and 1 police inspector's house at Tiverton, Beechwood. (b) County Architect, 97 Heavitree Road, Exeter. (c) 3gns by cheque, payable to Council.

* * *

DUNMOW R.C. (a) Two pairs of houses on the Church Lane estate, Little Canfield. (b) Council's Clerk, The Council Offices, Dunmow, Essex. (c) 3gns. (e) January 7.

* * *

EAST ELLOW R.C. (a) 8 houses on the Holbeach Hallgate site. (b) Council's Architect, Council Offices, Mattimore House, Holbeach, in writing.

* * *

EAST RIDING OF YORKSHIRE C.C. (a) Alterations and additions at the Heslington primary school, near York. (b) County Architect, County Hall, Beverley. (c) £2. (e) December 31.

* * *

EIRE—DUBLIN. (a) Extension to the third floor of the terminal building, Dublin Airport, for the Department of Industry and Commerce. (b) Room 411, Department of Industry and Commerce, Kildare Street. (c) £5. (e) January 1.

* * *

GRIMSBY CORPORATION. (a) Six houses on the Waltham Road frontage of Springfield estate, Scartho, together with appurtenant works of outbuildings, drainage and paths. (b) Borough Engineer, Municipal Offices, Town Hall Square. (c) £2. (e) January 8.

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You can depend on

Cementone No. 3

Waterproofing Liquid

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JOSEPH FREEMAN SONS & CO. LTD.
Cementone Works,
Wandsworth, London, S.W.18
Makers of Colours, Paints & Varnishes since 1776

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HERNE BAY U.C. (a) Five blocks of four flats at Pier Avenue. (b) Council's Engineer, Council Offices. (e) January 9.

* * *

HEXHAM AND NEWCASTLE DIOCESAN TRUSTEES. (a) Erection of St. Theresa's R.C. primary school, Harris Street, Darlington. (b) Mr. T. A. Crawford, 80 Borough Road, Middlesbrough. (c) 5gns. (e) January 10.

* * *

HOLLAND C.C. (a) Erection of a girls' secondary grammar school at Stonegate, Spalding. (b) County Architect, County Hall, Boston. (c) 2gns from firms selected to tender. (e) January 21.

* * *

IPSWICH B.C. (a) 32 bungalows together with outbuildings, etc., on Chantry estate, 2B London Road. (b) Borough Engineer, 19 Tower Street. (c) 3gns. (d) December 20. (e) January 24.

* * *

LANCASHIRE C.C. (a) Erection of police house and office at Little Hoole, Brook Lane; two pairs of police houses at Parvet Avenue, Droylsden; two additional classrooms at St. Philip's C.E. school, Litherland; alterations to form additional classrooms at Bleasdale House special school, Silverdale; prefabricated timber primary school at Grange Road, Fleetwood; prefabricated timber primary school at Kingsfold, Penwortham. (b) County Architect, P.O. Box No. 26, County Hall, Preston, quoting Ref. A./MG. (d) December 18.

* * *

LANGPORT R.C. (a) Two pairs of houses with services and augmentation of existing sewage disposal works at Kingsdon. (b) Messrs. Darby, Hill and Partners, Westminster Bank Chambers, Taunton. (c) 2gns. (e) January 21.

* * *

LEEDS REGIONAL HOSPITAL BOARD. (a) Carrying out alterations to provide new casualty department at The Royal Halifax Infirmary. (b) Board's Architect, Park Parade, Harrogate, Yorks. (c) 2gns. (d) December 18. (e) January 15.

* * *

LINCOLN C.C.—PARTS OF KESTEVEN. (a) Erection of two single-storey laboratories in traditional construction with prestressed concrete roof at Kesteven and Sleaford girls' high school. (b) County Architect, County Offices, Sleaford. (d) December 19. (e) January 17.

* * *

LINCOLN C.C.—PARTS OF KESTEVEN. (a) Erection of two laboratories as extensions to the existing art room block at Sleaford Carre's grammar school. (b) County Architect, County Offices, Sleaford. (d) December 19. (e) January 17.

* * *

LINCOLN C.C.—PARTS OF KESTEVEN. (a) Erection of assembly hall cum dining-hall, ancillary accommodation and playing space and adaptations to classrooms at Sleaford William Alvey C.E. school. (b) County Architect, County Offices, Sleaford. (d) December 19. (e) January 17.

* * *

LINCOLN C.C.—PARTS OF KESTEVEN. (a) Erection of pavilion and groundsman's cottage at The King's School, Grantham. (b) County Architect, County Offices, Sleaford. (e) January 17.

* * *

MERE AND TILSBURY R.C. (a) 13 houses together with main and curtilage site works at Hindon. (b) Messrs. Bothams and Brown, 32 Chipper Lane, Salisbury, Wilts. (c) 2gns. (e) December 19.

* * *

MIDDLESBROUGH B.C. (a) Erection of a two-storey building, comprising studios, workshops, craft and lecture rooms for the College of Art, on a site fronting on to Green Lane, Linthorpe. (b) Director of Education, Education Offices, Woodlands Road. (c) 5gns. (d) December 22. (e) January 25.

* * *

N. IRELAND—DOWN EDUCATION COMMITTEE. (a) Erection of a new primary school at Castle Park, Bangor, Co. Down. (b) Messrs. W. H. Stephens and Sons, 13 Donegall Square North, Belfast. (c) 5gns. (e) December 19.

STEEL CONSTRUCTIONS FOR EVERY ENGINEERING REQUIREMENT
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J. GARDNER & CO. LTD.

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From 18ft. to 40ft. giving a light but rigid truss of pleasing design.

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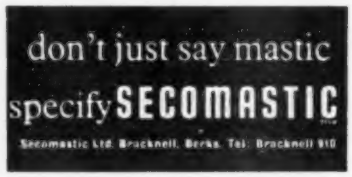
DEVIZES • Phone 973/4



PEMBROKESHIRE C.C. (a) Additional classroom block at Milford Haven grammar school. (b) County Architect, County Offices, Haverfordwest. (e) January 5.

* * *

PORTSMOUTH C.C. (a) (1) Major additions and alterations for technical high school at Hilsea; (2) aged persons' home at Linkroad, Cosham; and (3) 102 houses at Parkhouse Farm, Leigh Park. (b) City Architect, 1 Western Parade, Portsmouth, stating in which contract(s) interested. (c) £1 each contract. (d) January 1.

* * *

RINGWOOD AND FORDINGBRIDGE R.C. (a) 56 dwellings together with ancillary drainage and site works at Sandy Plot, Burton. (b) Frank Andrews, 58 Southampton Road. (c) 3gns by cheque. (e) December 22.

* * *

ROCHDALE B.C. (a) Alterations and additions at Lowerplace infants' school. (b) Borough Surveyor, Town Hall, Rochdale. (e) December 21.

* * *

ST. ALBANS C.C. (a) (1) A block of 24 flats adjacent to Torrington House, Belmont Hill; and (2) a block of 12 flats adjacent to Thorne House, Townsend Avenue. (b) City Engineer, 16 St. Peter's Street. (c) 2gns each contract. (e) January 8.

* * *

ST. ALBANS C.C. (a) Two blocks of 6 flats and one block of 6 garages at the rear of Hall Place, St. Peter's Street. (b) City Engineer, 16 St. Peter's Street. (c) 2gns. (e) January 1.

* * *

SALFORD E.C. (a) Erection of two classrooms at Salford grammar school, Eccles Old Road, Salford, 6. (b) Messrs. Taylor and Young, 195 Oxford Road, Manchester, 13. (c) 2gns.

* * *

SCOTLAND—EDINBURGH CITY AND ROYAL B.C. (a) Demolition of a two-storey block of four houses at Saughtonhall area, and erection in its place of a single-storey block of two houses. The latter to plans submitted by builders themselves. (b) City Architect, City Chambers, Edinburgh, in writing. (d) December 17.

* * *

SCOTLAND—HAMILTON B.C. (a) Several works for the erection of 12 4-apartment houses on five sites within the Burgh. (b) Town Clerk, The Town House, Hamilton. (c) £2. (e) December 28.

* * *

SOMERSET C.C. (a) Erection of Phase II of Wells secondary school. (b) County Architect, Park Street, Taunton, with an assurance that applicant has the necessary financial and material resources and organization to undertake the work. (c) 2gns from firms selected to tender. (d) December 17.

SOUTH SHIELDS B.C. (a) 94 houses at Whiteleas estate. (b) Borough Engineer, Town Hall. (c) 2gns. (e) January 8.

* * *

STOCKTON. (a) Erection of club premises at Bishopton Road, for Stockton Co-operative Employees' Welfare Association. (b) J. C. Blackhouse, 8 Broughton Rise, Malton. (c) £2.

* * *

STOWMARKET U.C. (a) 40 flats in blocks of four at Chilton Hall estate. (b) Council's Engineer, Ipswich Road. (c) 2gns. (e) January 11.

* * *

VAYNOR AND PENDERYN R.C. (a) (1) Construction of carriageways and footpaths, laying of sewers and other appurtenant works; and (2) erection of 20 houses in pairs, with garages, on the Conservative Hall Field site, Cefn Coed, nr. Merthyr Tydfil. (b) Council's Clerk, Council Offices, 47A High Street. (c) 5gns. (e) January 3.

* * *

WEST RIDING OF YORKSHIRE C.C. (a) Major building works of a value between (1) £5,000 and £10,000; (2) £10,000 and £25,000; (3) £25,000 and £50,000; (4) £50,000 and £100,000; and (5) works exceeding £100,000. (b) Deputy County Architect, Bishopgarth, Westfield Road, Wakefield, in writing, stating the category or categories of work for which contractor wishes to be considered for inclusion in the Council's List of Selected Contractors. Applicants should give particulars of works of a similar nature carried out by them together with names and addresses of three architects or engineers to whom reference can be made and the name and address of their banker. (d) January 19.

* * *

WEST RIDING OF YORKSHIRE C.C. (a) Erection of a two-bay fire station in High Street, Maltby. (b) Deputy County Architect, Bishopgarth, Westfield Road, Wakefield. (c) 2gns. (e) January 4.

* * *

WEST SUSSEX C.C. (a) Erection of (1) new primary schools at Tilgate (East), Crawley, consisting of eight-class junior school and six-class infants' school (job No. 4406); and (2) new primary schools at Gossops Green, Crawley, consisting of nine-class junior school and seven-class infants' school (job No. 4440). (b) County Architect, County Hall, Chichester. (d) January 5.

* * *

WINCANTON R.C. (a) Eight flats at Millbrook, Castle Cary. (b) Council's Architect, Council Offices. (d) December 15. (e) January 14.

* * *

WOKING U.C. Contract No. 9. (a) 42 dwellings at Barnsbury Farm estate. (b) Council's Engineer, Council Offices. (c) 2gns. (d) December 19. (e) February 23.

* * *

WORCESTER C.C. (a) 259 dwellings in terraces, pairs and two-storey flats, at Warndon estate. (b) City Engineer, 22 Bridge Street. (c) 3gns. (e) January 15.

YEOVIL R.C. (a) Four bungalows together with site works at Lightgate, South Petherton. (b) Messrs. Petter, Warren and Roydon Cooper, The Old Oxford Inn, West Hendford. (c) 2gns. (e) December 20.

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PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

BRISTOL CITY COUNCIL. (1) 151 maisonettes and flats. (2) Kingsweston Lane. (3) Stone and Co. Ltd., Redland Road, Bristol. (4) £441,710.

* * *

BOURNEMOUTH B.C. (a) Erection of girls' school. (2) West Howe. (3) Cooper and Rowe Ltd., 83 Talbot Road, Bournemouth. (4) £182,055.

* * *

HEMEL HEMPSTEAD. (a) Factory, for Dexion Ltd. (3) C. Miskin and Sons Ltd., Romeland, St. Albans, Herts. (4) £350,000.

* * *

WEST HAM B.C. (1) 113 houses, 71 maisonettes. (2) Plaistow Road. (3) W. J. Simms, Sons and Cooke Ltd., 78 Mount Street, London, W.1. (4) £377,208.

* * *

LONDON, W. (1) Erection of store, for Maryon Fashion Group Ltd. (2) Oxford Street. (3) Tersons Ltd., 4 Dollis Park, Finchley, N.3. (4) £200,000.

* * *

GRAVESEND B.C. (1) 202 houses. (2) Singlewell. (3) C. J. Howard and Son, Ltd., Chatham, Kent.

* * *

GATESHEAD. (1) Erection of R.C. church. (2) Watson Street. (3) William Hall (Contractors) Ltd., Derwentwater Road, Gateshead.

* * *

NORTHOLT, MIDDLESEX. (a) Old people's home, for Greater Ealing Old People's Homes. (3) Norman Sinclair Ltd., Denmark Road, London, W.13. (4) £50,000.

* * *

AYLESBURY. (1) Admission department at St. John's Hospital. (3) Webster and Cannon Ltd., Cambridge Street, Aylesbury. (4) £116,648.

* * *

SHEFFIELD CITY COUNCIL. (1) 174 houses and 80 houses. (2) Beavor Hill estate and Manor Park estate respectively. (3) M. J. Gleeson Ltd., Sheffield.

* * *

RUGBY B.C. (1) 56 aged persons' flats. (2) Bromwich Road. (3) Browning Construction Co. Ltd., 19 Hillmorton Road, Rugby. (4) £70,800.

* * *

ST. HELENS B.C. (1) 104 dwellings. (2) Derbyshire Hill site. (3) Gregory Construction Ltd., Hope Street, Liverpool.

* * *

SOUTHPORT B.C. (1) High school for girls. (2) Hillside. (3) R. J. Barton and Sons Ltd., Altcar Road, Formby, Lancs. (4) £217,661.

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PORTSMOUTH CORPORATION. (1) Home for aged persons. (2) Southsea. (3) E. Figgins and Sons, Fitzherbert Road, Bedhampton, Hants. (4) £36,985. (1) 33 flats. (2) Bishop Street. (3) Henry Jones and Son (Portsmouth) Ltd., Aldwell Street, Southsea. (4) £66,709. (1) 15 flats. (2) Hambrook Street. (3) A. G. Figgins Ltd., Swiss Road, Waterlooville, Hants. (4) £30,982.

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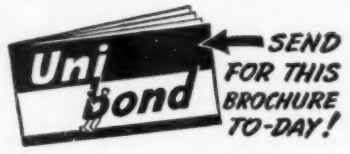

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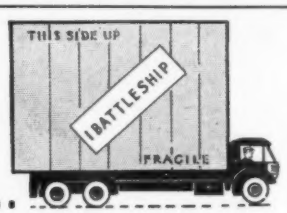

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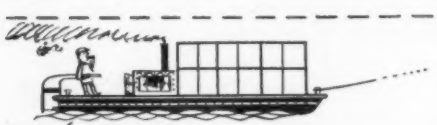

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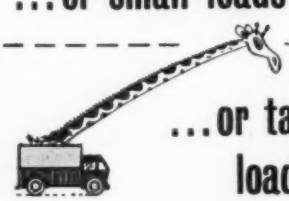

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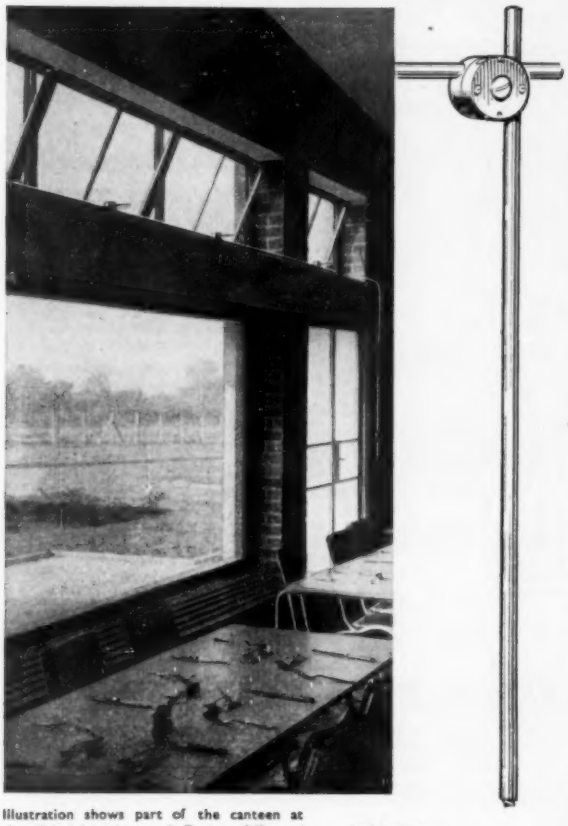

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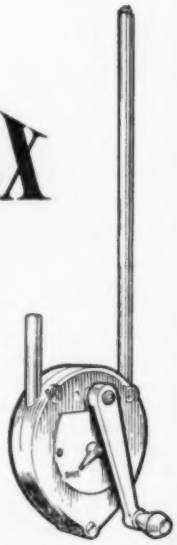

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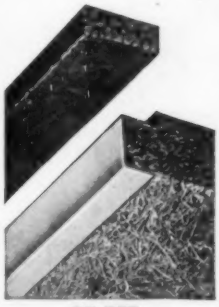

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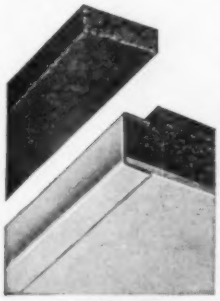

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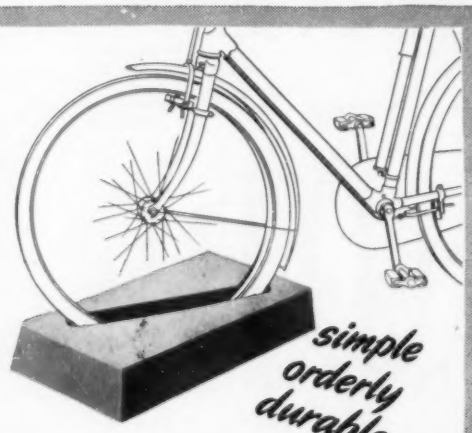

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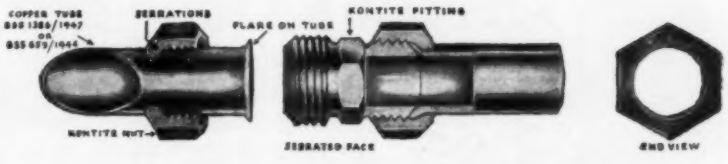

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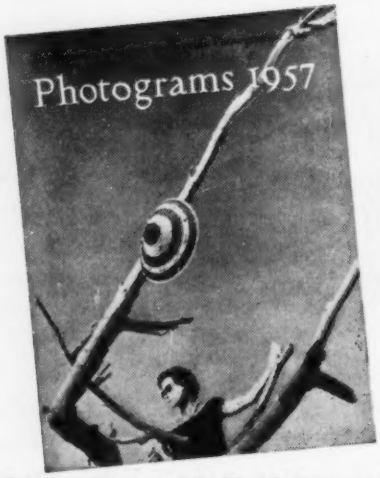

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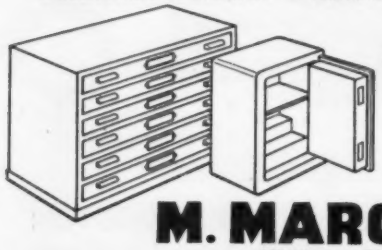

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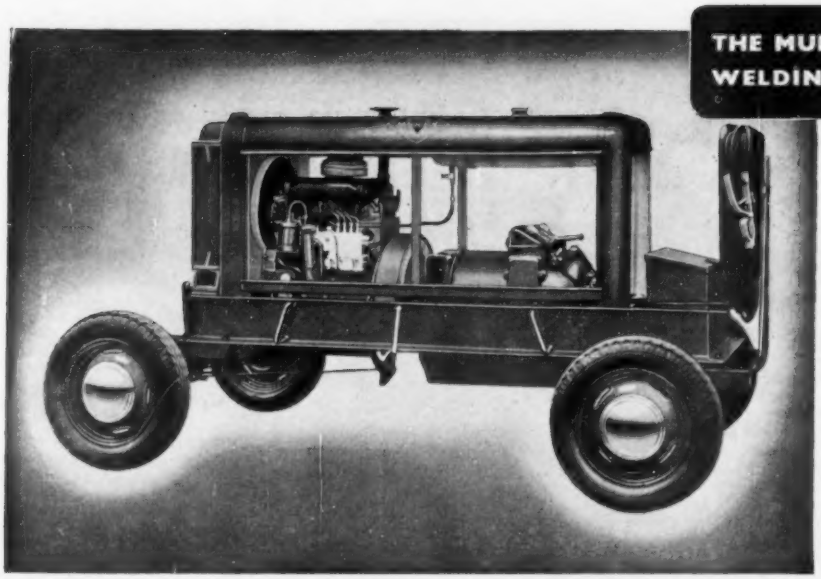

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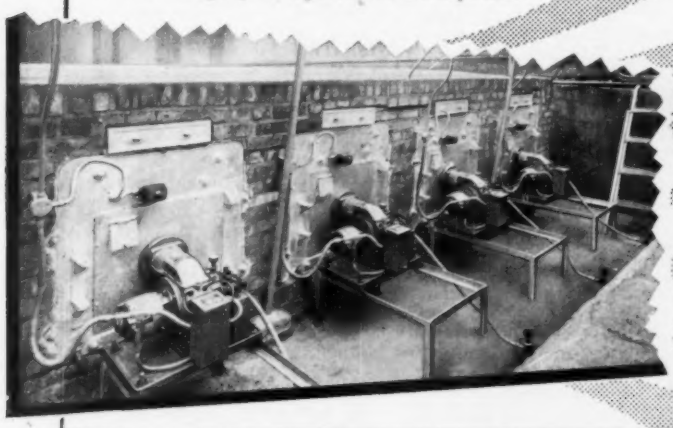

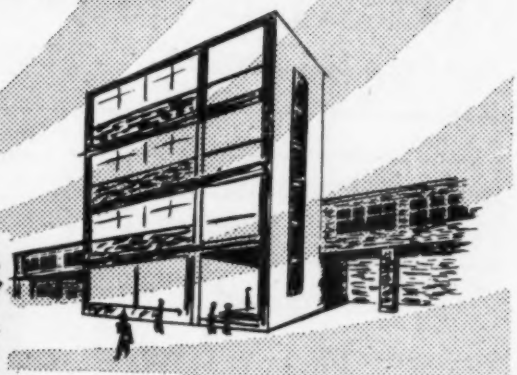

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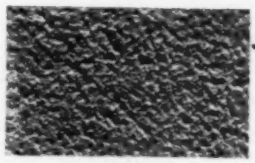

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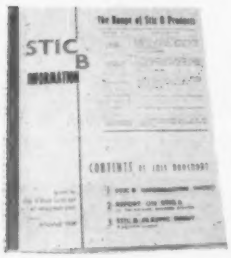

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CHRISTMAS—PRESS NOTICE

The issue dated DEC. 27th will close for Press FIRST POST Wed. DEC. 19th.

APPOINTMENTS

URBAN DISTRICT COUNCIL OF EAST BARNET

APPLICATIONS are invited for the following permanent appointments :

(a) Assistant Architect—Grade A.P.T. III (£656 to £784 2s 6d per annum).

(b) Architectural Assistant—Grade A.P.T. II (£609 17s 6d to £691 17s 6d per annum).

The above salaries will be increased by London Weighting of £20 to £30 per annum according to age.

Housing accommodation will be provided for appointment (a) if necessary.

Conditions of Appointment and Forms of Application, returnable by December 29, 1956, may be obtained from the Engineer and Surveyor, Town Hall, Station Road, New Barnet, Hertfordshire. [2919

THE RURAL DISTRICT COUNCIL OF GODSTONE

APPOINTMENT OF CHIEF ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the appointment of Chief Architectural Assistant in the Department of the Engineer and Surveyor on the salary scale A.P.T. V (£814 17s 6d—£994 5s), the commencing salary to be in accordance with qualifications and experience.

Applicants must be Associate of the Royal Institute of British Architects and have had experience in the design and construction of Local Authority housing.

The appointment is subject to the Scheme of Conditions of Service, the Local Government Superannuation Acts and to the passing of a medical examination.

The successful applicant will be required to provide a car for official journeys, for which an allowance will be paid at essential user's rate for car not exceeding 10 h.p.

Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should reach the undersigned not later than December 20.

F. W. WALPOLE,
Clerk of the Council.

Council Offices,
Oxted, Surrey. [2932

BRACKNELL DEVELOPMENT CORPORATION

APPLICATIONS are invited from Corporate members of the R.I.B.A. for the post of Senior Architect, A.P.T., Grade X.—salary £1,295 x £55(4) —£1,515.

Applicants should have considerable experience in the design and supervision of large housing contracts.

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COUNTY BOROUGH OF BURY

APPLICATIONS invited from suitably qualified persons for appointment of Senior Quantity Surveyor, Borough Engineer's Department, A.P.T. Grade IV (£727 15s to £907 2s 6d). Superannuation. Medical Examination.

If required, provision of housing accommodation will be considered.

Applications stating age, training, qualifications and experience, with names and addresses of two referees must reach me by December 28.

EDWARD S. SMITH,
Town Clerk.

Town Hall,
Bury.
December 6, 1956. [2944

APPOINTMENTS—contd.

THE UNIVERSITY OF SHEFFIELD

APPLICATIONS are invited for the Chair of Architecture which will become vacant at the end of September, 1957, by the retirement of Professor S. Welsh. Salary £2,300 a year, with F.S.S.U. provision and family allowance. Further particulars should be obtained from the Registrar, The University, Sheffield, 10, to whom applications (20 copies, one only from overseas candidates) should be sent by February 2, 1957. [2935

URBAN DISTRICT COUNCIL OF CORBY

APPOINTMENT OF
(a) SENIOR ARCHITECTURAL ASSISTANT
(b) ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the following appointments in the department of the Engineer and Surveyor:

(a) Senior Architectural Assistant, Grade A.P.T. IV, £710 to £885 (+ 2½ per cent), commencing at minimum of grade.

(b) Architectural Assistant, Grade A.P.T. III £640 to £765 (+ 2½ per cent), commencing at minimum of grade.

Applicants for appointment (a) must be Registered Architects and should have considerable experience in design, construction and contract administration as applied to contracts for Public Buildings and local authority housing.

Applicants for appointment (b) must have passed the R.I.B.A. intermediate examination or its equivalent as a recognized school of Architecture, and have had at least two years' experience in an Architect's Office (exclusive of pupilage). Preference will be given to applicants who have reached an advanced stage in preparing for the Final Examination and who have had Testimonials of study accepted. A contemporary outlook and all-round general experience is desirable.

The provisions of the Local Government Superannuation Acts, 1937-1953, will apply to these appointments. Housing accommodation will be made available to the successful candidates, if married.

Forms of application may be obtained from the undersigned, to whom they should be returned not later than the first post on Saturday, December 29, 1956.

Testimonials will be required only from applicants selected for interview.

G. B. BLACKALL,
Clerk of the Council.

Council Offices,
Corby, Northants.
December 7, 1956. [2947

NATIONAL COAL BOARD

NORTH EASTERN DIVISION

APPLICATIONS are invited for the following appointments in the Department of the Divisional Chief Architect at Conisbrough, nr. Doncaster:

ARCHITECT, GRADE II.
(Salary Scale: £700 x £30 to £1,000 per annum.)
Qualifications: A.R.I.B.A.

ARCHITECTURAL ASSISTANT, GRADE I.
(Salary Scale: £625 x £25 to £750 and up to £900 per annum in certain circumstances.)
Qualifications: Preferably Intermediate R.I.B.A. or considerable practical experience.

ARCHITECTURAL ASSISTANT, GRADE II.
Salary Scale: £520 x £20 to £615 per annum.)
Qualifications: Preferably Intermediate R.I.B.A. or studying for such examination.

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Qualifications: Preferably Intermediate R.I.C.S. or studying for such examination.

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Full details and application forms obtainable from Hugh Smith, F.R.I.B.A., Divisional Chief Architect, National Coal Board, P.O. Box No. 4, Denaby, nr. Doncaster. [2933

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DURHAM COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

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J. K. HOPE,
Clerk of the County Council.
[2942

BOROUGH OF SOUTHGATE

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
ARCHITECTURAL STAFF

THE Southgate Borough Council invite applications for the following vacancies in the Department of the Borough Engineer and Surveyor:

TWO ARCHITECTURAL ASSISTANTS, GRADE A.P.T. III
(£656 to £784 2s 6d) Plus "London Weighting")

The posts are permanent and superannuated and the starting salary will be fixed in accordance with qualifications and experience.

Candidates must possess the appropriate professional qualifications.

Forms of application may be obtained from the Borough Engineer and Surveyor and should be returned to the undersigned by not later than 9 a.m. on Tuesday, January 1, 1957.

Canvassing, directly or indirectly, will be a disqualification.

GORDON H. TAYLOR,
Town Clerk.

Town Hall,
Palmers Green,
London, N.13.
December, 1956. [2946

THE British Tabulating Machine Company Ltd., manufacturers of "Hollerith" equipment, has a vacancy for a Civil Engineer. This will entail responsibility for progressing new building projects and development schemes, including negotiation and liaison with architects and contractors, co-ordination of factory maintenance services and technical advice to Works Engineering Staff.

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LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

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Particulars and appliaction form, from Architect (AR/EK/APT/2), County Hall, S.E.1. (907). [0006

TENDERS

CITY OF CARLISLE

TENDERS are invited for the erection of the final stage of the new Technical College, Carlisle. Bills of Quantities may be obtained from the Architects, Messrs. Buckland & Haywood, Norwich Union Chambers, Congreve Street, Birmingham, 3, on or before January 7, 1957, upon payment of £3, returnable on receipt of a bona-fide tender. Copies of the drawings may be seen by appointment at the Education Offices, 19 Fisher Street, Carlisle, or at the offices of the Architect.

It is anticipated that Tender Documents will be available for dispatch to contractors by January 17, 1957.

Tenders to be received by me by noon Tuesday, February 21, 1957, in a plain sealed envelope endorsed "Tender—Technical College Extension," which shall not bear any name or mark indicating the sender.

Tenders should be accompanied by a list of buildings executed by the applicant and also photographs where possible.

H. D. A. ROBERTSON,
Town Clerk.

15 Fisher Street,
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EXPERIENCED Architectural Assistants are required in the Offices of Sir Percy Thomas & Son at both Cardiff and Swansea. Applications giving details of age, qualifications, experiences, etc. should be sent to the Cardiff Office at 10 Cathedral Road. [2934

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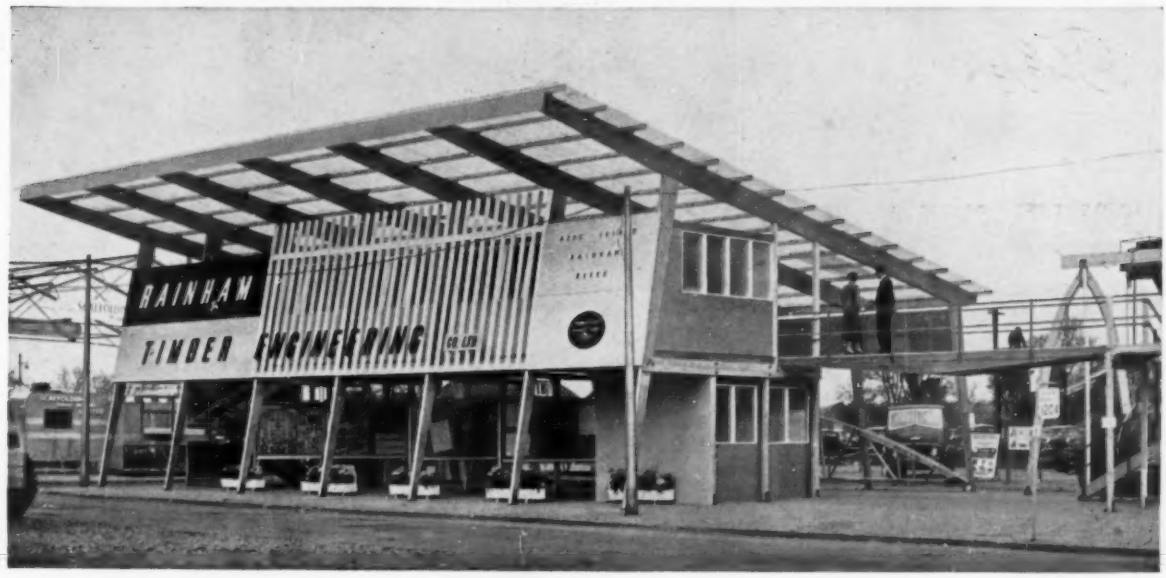

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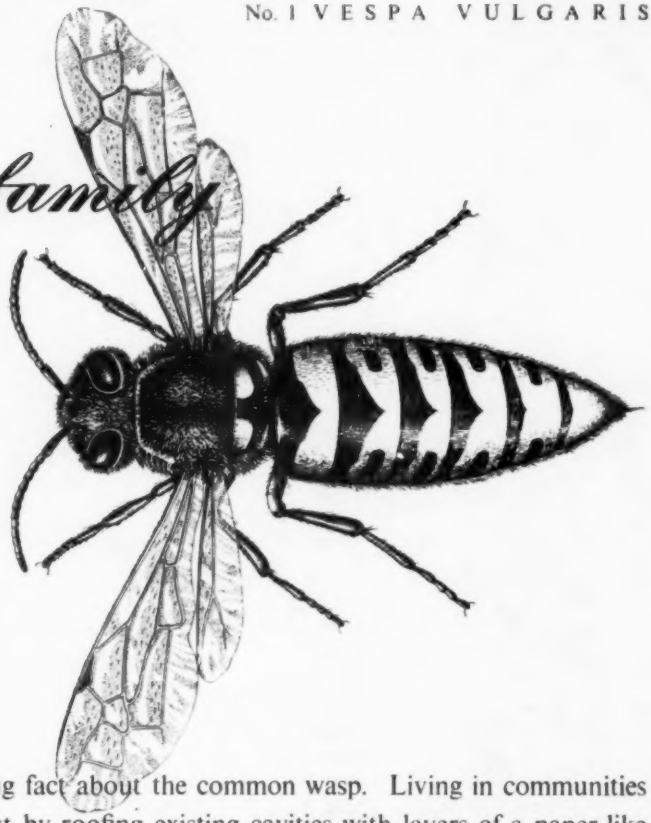

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